THE BUILDER

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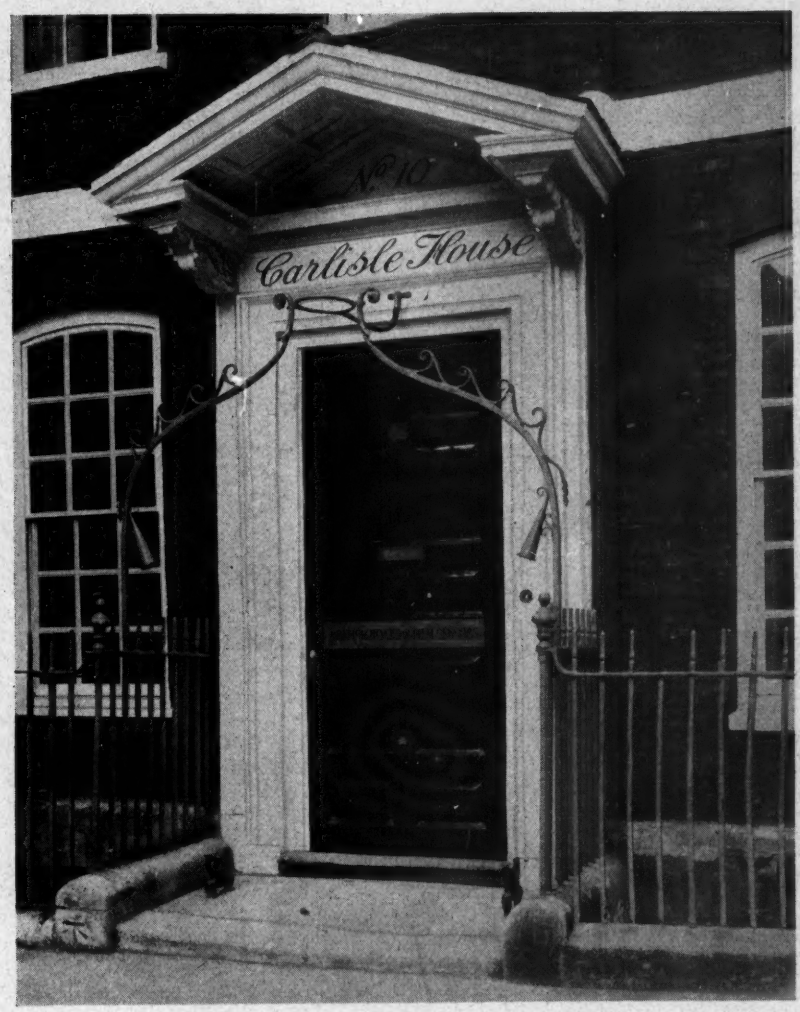


CARLISLE HOUSE, CARLISLE STREET, SOHO.

Attributed to WREN. (See page 52a)

MEETINGS

FRIDAY, *January* 8

Institute of Welding (*Midlands Branch*). Mr. H. S. Jeffs on "Electric Resistance Welding with Modern Production Conditions." At the James Watt Memorial Institute, Birmingham, 3. 7.15 p.m.

Chartered Surveyors' Institution (*Surrey Branch*). Dinner and Dance. At Bentalls, Kingston.

Institution of Structural Engineers (*Western Counties Branch*). Mr. W. E. Francis on "Laboratory Tests on Materials and Structures." At the Merchant Venturers' Technical College, Bristol.

MONDAY, *January* 11.

Royal Institute of British Architects. Award of Prizes and Studentships. Criticism by Mr. H. Austen Hall on works submitted for Prizes and Studentships. Announcement of the Council's nomination for Royal Gold Medal, 1937. 8 p.m.

Institute of Welding (*North-Eastern* (*Tyneside*) *Branch*). Mr. H. E. Lance Martin on "Distortion, Residual Stress and Heat Penetration in respect to Welded Joints." At the Armstrong College, Newcastle-on-Tyne. 7.30 p.m.

TUESDAY, *January* 12.

Chartered Surveyors' Institution. Annual Ball. At the Grosvenor House, W.1. 9.30 p.m.

Institution of Heating and Ventilating Engineers (*London and District Branch*). Mr. N. Wignell on "Automatic Firing." At the Borough Polytechnic, S.E.1. 7 p.m.

Society of Chemical Industry (*Road and Building Materials Group*). Professor H. H. Walsh on "Grading of Aggregates for Concrete." At Burlington House, W.1. 8 p.m.

Institution of Civil Engineers. Mr. H. J. Nichols on "Prestressing Bridge Girders." 6 p.m.

Chartered Surveyors' Institution (*Scottish Branch*). Mr. W. B. French on "Points on the Management of Small Dwelling Houses." At the Gordon Hotel, Glasgow. 7.30 p.m.

WEDNESDAY, *January* 13.

Institute of Welding. Mr. H. W. G. Hignett on "Welding Non-Ferrous Metals—some Problems." At the Institution of Mechanical Engineers, S.W.1. 6.30 p.m.

Liverpool Architectural Society. Mr. E. Carter on "Architecture and Modern Politics." 6 p.m.

WEDNESDAY AND THURSDAY, *January* 13 *and* 14.

Institute of Welding (*Scottish Branch*). Mr. E. S. Waddington on "Modern Developments in Welding." Wednesday at 207, Bath-street, Glasgow, and Thursday at the Heriot Watt College, Edinburgh. 7.30 p.m. each day.

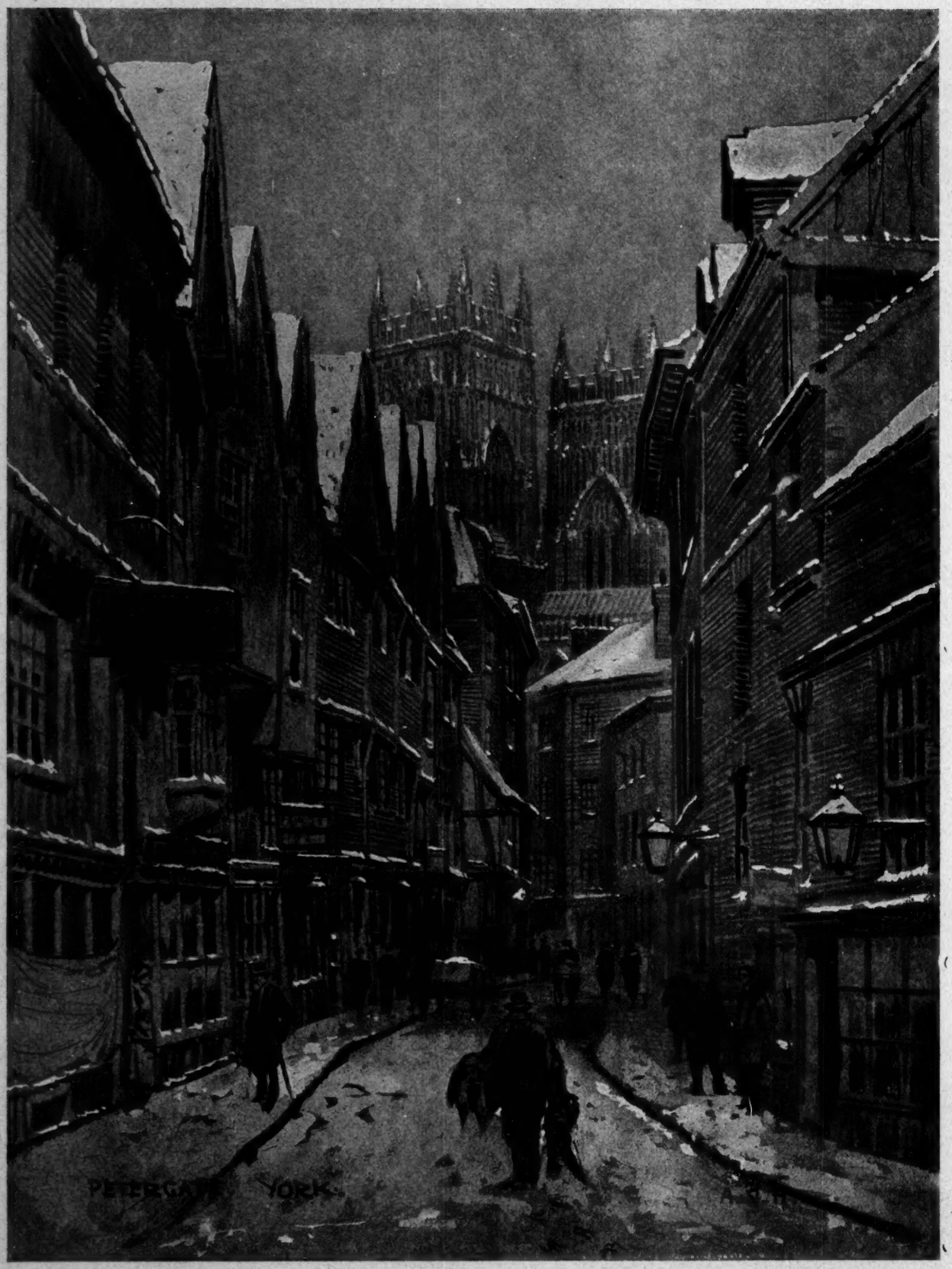
THURSDAY, *January* 14.

Institute of Welding (*Liverpool and District Branch*). Mr. E. B. Partington on "The Welding of Lead and Low Melting Point Alloys by the Oxy-Acetylene and other Flame Processes." At the City Technical College, Liverpool. 7.30 p.m.

Chartered Surveyors' Institution (*Yorkshire Branch*). General Meeting and Annual Dinner. At the Great Northern Hotel, Leeds. 7 p.m.

Association of Architects, Surveyors and Technical Assistants. Mr. Lewis Silkin on "Working-class Housing in London." At the Caxton Hall, S.W.1. 6.45 p.m.

Institution of Structural Engineers. Mr. S. Bylander on "Steelwork in Buildings—Thirty Years' Progress." At the Institution of Civil Engineers, S.W.1. 6.30 p.m.



PETERGATE, YORK.

From a drawing by MR. A. C. FARE, R.W.A., A.R.I.B.A.

THE NEW YEAR

WE look back on the year that has gone with a feeling that it has been a good year for the art of building. It has been a year of great activity, associated with better trade generally in other industries—all of them imbued with the spirit that we have emerged into better times. And that is a healthy spirit. Optimists and pessimists may cancel themselves out, as "bulls and bears," but it is undeniable that the hopeful outlook of a nation is reflected in its architecture.

It is a truism that architecture is indicative of a nation, and in a narrow sense it is a reflex of the condition or prosperity of the people. With certain exceptions, in localised areas that have not yet been adjusted to economic conditions, it can be said that this last year has seen a broadening and deepening of the channels of trade. If, therefore, we take these matters as we find them, and set aside the uncertainty of long views, we see the work around us waiting to be done. There comes to mind the extract from the oration of Pericles: "Because of the greatness of our city the fruits of the whole earth flow in upon us." We have always liked Bagshot's comments upon the order of these words, and the splendid emphasis which appeared to him to be thrown on "the greatness of the city." He meant that to the Greek mind it was not the great trade which made the great State, but the great State which drew the trade to itself.

We will not attempt in a short space to summarise the trading profits and balance-sheet of the art of building. Nevertheless we believe that an onlooker would feel bound to comment upon the number of architectural competitions during the past year, and upon the excellent results technically and architecturally—if these qualities are not inseparable—that the public has obtained for its expenditure. There is much to be said for a system that is gradually putting an end to quarrels amongst local authorities who have their own ideas upon architecture, for which, unfortunately, ratepayers have to suffer and pay. These financial and æsthetic burdens still press heavily, and it is to be hoped that pressure will be brought to bear upon those councillors who regard architecture as the old lady regarded poetry; she, it will be remembered, wrote it when she wanted it.

There are indications that the future must bring a co-ordinated theory for the development of our cities, suburbs, villages, and the countryside. At the moment they suggest the Age of Anyhow. We see the frantic buying of the countryside for preservation, uncertainty about our sprawling suburbs, uncertainty about the location of our industries, uncertainty about the meaning of village life, and uncertainty about what our cities, or the civic life, mean. A cross-section through all these ambiguities reveals the serious problem of our roads in relation to their own traffic, their safety, and their influence upon our social development and architecture. It is architecture that supplies the response to these problems which, through their own muddle, have been threatening to make house-building a major nuisance.

We look for a solution that takes a broad view of all the factors. A sense of proportion is necessary in determining, for instance, whether industry should develop in the ugliest districts, or in the loveliest country. On the other hand, the recent desire to locate industry in the industrial towns that are suffering from unemployment may provide a material solution to what seems to have been a theoretical and sentimental problem. There are those who prefer to say that certain industries are incapable of being beautiful, rather than to say that they are ugly. For their benefit it has been suggested by someone that these industries should be grouped into well-chosen and inconspicuous spots. These disarming words make a better appeal perhaps than the suggestion of ugly localities, but sooner or later we must settle these problems by saying what we mean. It is our hope that architects will give their attention, not to one factor, but to all of them in their relation to each other.

We do not pretend to submit a review of the architecture of the past year; we are too near to our subject to be able to say with certainty which way architecture is going. There are obvious tendencies to be seen, but they may be transitional or merely fashionable. We might have been tempted to say that we tremble to think of the consequences if architecture does this or that, if we were not conscious of Mr. Robert Lynd's observation: "I am inclined to the opinion that people who tremble to think are nearly always wrong. I doubt whether they tremble, and I am sure they seldom think." Instead, therefore, we confine ourselves to a few points upon which we hope that the architecture of the future will enlighten us.

As time goes on, architecture will emerge and explain many things that are puzzling to-day. It will reveal to us that simplicity is not so very simple or simple-minded; that nakedness is neither plainness nor simplicity; that there is a distinction between originality and novelty; and between fundamental character and functionalism. It will explain the puzzle about taste and fashion—whether it is the style that has produced the taste, or whether the taste has called forth the style. Not everyone desires to live in a world of stark antiseptic-looking buildings; there are many who feel that formal beauty is something more than fitness for purpose. Consequently, if it is the purpose of art to reflect the life and manners of the generation, architecture will lengthen its stride to satisfy those who feel that beauty is not all of the one order, or that there is a fixed conception of life.

In all these matters we look forward with confidence to the tolerance and wisdom which will break down the rigid and absolute theories upon social life and æsthetics that are fashionable at the moment. Throughout the year we seem to have been hearing the voice of Dr. Johnson shouting: "Sir, in an adjustment between truth and error it is obvious that whatever is waived must be waived by error alone, for Truth, if she is to remain truth, can waive nothing." There speaks the voice of the absolute! With the break-down of the absolute, the architecture of the future will emerge. And by that, we do not mean an architecture of futurism—an architecture, uncertain of its function, wandering into the mechanics of stream-lines and aeroplane wings. Much of this we owe to the Continent. On the other hand, Continental architects, lamenting the recent destruction of the Crystal Palace, have declared it to be the first example of Modern architecture. It is a nice gesture, and a sense of humour is necessary if architects are to forget all the scathing things they have written about this building, born in 1851. The moral of the Crystal Palace is clear; that we all live in glass houses, and that we all throw stones; while the moral for architecture is that it follows fashions yet denies with seriousness that it is a fashionable art.

In the Morris period it was assumed that there could be no doubt whether a thing was useful or not. Utility was a matter of common knowledge, but, on the other hand, beauty was merely an article of faith. How easy it is to believe that this is a discovery of to-day! Michael Mont declares, in one of Galsworthy's books, that "the great discovery of the war is that we all thought we were progressing—now we know we're only changing."

In wishing all our readers a prosperous year in the art of building, we also wish them the gift of humour, which brings with it the sense of proportion.

**

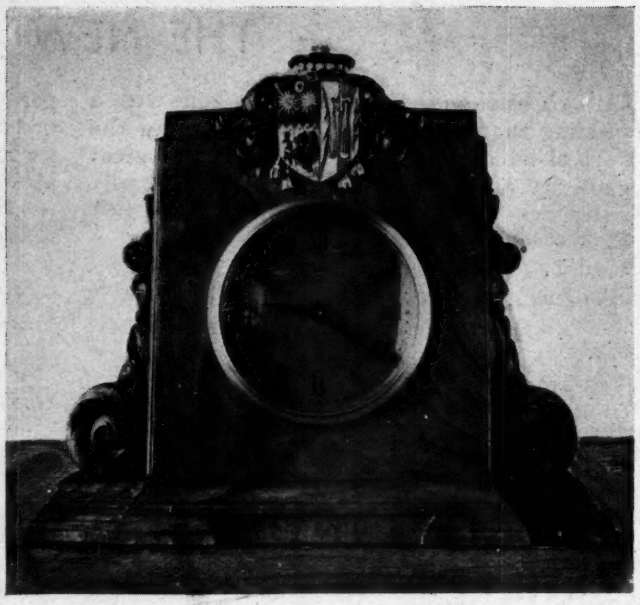
NOTES

Greetings.

In wishing our readers a Happy and Prosperous New Year, we have in our minds not only the conventional material considerations, but we offer that wave of the hand to those who are beginners in the Art of Building. Stevenson has said it so beautifully for those engaged in another craft:—"There must be something for hope to feed upon. The beginner must have a slant of wind, a lucky vein must be running, he must be in one of those hours when the words come and the phrases balance themselves—even to begin." All these gifts we wish with the greeting as we pass on. If we permit ourselves another favourite extract from Stevenson, we would add this:—"Hope, they say, deserts us at no period of our existence. From first to last, and in the face of smarting disillusions, we continue to expect good fortune, better health and better conduct; and that so confidently that we judge it needless to deserve them." We are conscious of the sting in the tail of that extract, but we join with all our readers in trying to deserve them.

Words and Deeds.

We are all the heirs of time and of its great patrimony. All that time has revealed is ours, either to injure, continue or amend. Architecture and the arts are always at the beginning, in no way necessarily tied to what has been but to serve our needs to-day, though there is an underlying unity in difference upheld by tradition. The issue is, therefore, whether our own contribution is one adding to the beauty and welfare of life. Perhaps the chief danger lies in the lack of clear thinking, so that we entangle ourselves with words which too often take the place of deeds. It is not theories about architecture, modernist or any other, but the buildings we put up that count. It is not art in the abstract, about which we theorise so much, but the work accomplished that matters. And so, judging not by opinions but deeds, testing the work itself, the worth of its service to humanity will reveal itself to us. Then shall we find according to our deeds, that as we have sought beauty our buildings will be fair, as we have sought the good we shall find the good we seek. It is not circumstances that should govern us; we should shape them. And in this New Year, seeing that it is the likeness of ourselves that we project, let us see that it is worthy of us.



A SMALL SHELF CLOCK (in memory of the late Annie, Viscountess Cowdray) for the Cowdray Club, made and carved in walnut by Mr. George Haughton to the design of Sir EDWIN COOPER, A.R.A.

A Standard of Beauty.

We would like to see in the coming year a theory of æsthetics that did not discount our intelligence, or preclude beauty. It is disheartening to believe that contemporary judgment is nearly always wrong, and that a later generation will recognise beauty where we failed to see it. Alice in Wonderland would have had something to say about this. Truth is beauty, but use is beauty and beauty use—so they say. If so the Income Tax demand note is poetry, and its punctual reminder on New Year's day has all the virtues of efficiency. Or again, if use is beauty, it is an easy step in our language to say that we can get used to anything. We believe that there was a standard of beauty somewhere, or at least that the whirligig of taste revolved round a

A FARMHOUSE IN BUCKS.

Additions to this Farmhouse in Bucks, consisting of Barn and Alterations to Existing House, have been designed by SIR EDWIN COOPER, A.R.A.

DESIGN FOR HERALDIC PANEL FOR KING GEORGE'S FIELDS. BY MR. GEORGE KRUGER GRAY, A.R.C.A., F.S.A.
(See this page.)

fixed centre. Just as to a morally-minded person it is inconceivable that there is not a standard of right and wrong to which we constantly approximate, so to the artistically-minded man it is inconceivable that we have not got something at which we constantly aim.

Building and the Public

THE position of the building industry as a "key" trade in Great Britain is one which the public, though perhaps slow to appreciate, do now widely realise. This was borne out in no uncertain measure by a leading article in *The Times* of December 30. This was headed "A Key Industry," and in it the effect which the industry directly and indirectly exerts on trade was admirably summarised. That article was also remarkable in that the position held, and the influence brought to bear, by the Building Industries National Council as the official mouthpiece of the industry was, for the first time, acknowledged. Recognition of that position—which the Council holds by the desire and authority of most of the best elements in the industry—brings also its responsibilities. The confidence which the general public has come to repose in the Council's pronouncements is a trust which must be preserved, and it is for that reason that a recent reference in the *Manchester Guardian* to the uncontrolled rises in materials prices must be viewed with anxiety. Should the public gain the impression that anything in the form of profiteering is taking place, the Council's pronouncements would lose something of their effectiveness. An interview with Mr. H. B. Bryant (Secretary of the Council) on page 125, substantiates this belief, and indicates that action, preferably within the industry itself, is required.

The Memorial Plaques, King George's Fields.

THE photographs which we publish herewith are of the heraldic panels which have been designed for King George's Fields by Mr. George Kruger Gray, A.R.C.A., F.S.A., and have been submitted to the Royal Fine Art Commission. The final designs and models will be worked out in consultation with the Commission. Normally, they will be carried out in stone. They will be supplied in two sizes, the larger being 1 ft. 10 in. wide and the smaller 1 ft. 6 in. wide. The panels are for display at the main entrance to each field and will be equally suitable for inclusion in either stone or brick entrance piers. King George's Fields Foundation does not prescribe a standard design for memorial gates, nor is it the Foundation's wish to see a uniform type of entrance. But all designs for entrances will have to be approved by the Foundation, and it is desired that the most careful consideration shall be given to local conditions, and that the entrances of the King George's Fields shall be expressions of the best craftsmanship in the most suitable local materials. The Lion panel is intended to be fixed on the left of the entrance, and the Unicorn panel on the right. Where wooden posts form the gate supports, smaller panels in cast lead or bronze will be issued. Mr. Kruger Gray, the designer of the panels, designed the collar of the Order of the British Empire, the two maces of the Ulster Parliament and the official seals of the Union of South Africa and the Dominion of New Zealand.

Architect for Special Area Scheme.

THE South Wales and Monmouthshire Trading Estates, Ltd., announce that Mr. Percy Thomas, President of the Royal Institute of British Architects, is to act as consulting architect to the Treforest Trading Estate, which has been established at the instigation of the Commissioner for the Special Areas with the object of attracting new industries to South Wales. The Treforest Trading Estate, which is financed by the Government and is a non-profit-making enterprise, is seven miles from Cardiff. Although in the midst of the industrial areas of South Wales, it is at present an unspoilt rural valley with the River Taff running through it, but the preliminary work of preparing the site for the first factory began just before Christmas and by May it is hoped that several factories will be erected. "The results of haphazard industrial developments are to be seen a few miles up the valley," an official of the Trading Estate said. There will be ample open spaces between buildings and plenty of room for gardens and playing fields.

DESIGN FOR HERALDIC PANEL FOR KING GEORGE'S FIELDS.

CARLISLE HOUSE, CARLISLE STREET, SOHO: Entrance to Staircases.
(See article on page 52.)

HIGHWAYS AND CROSSROADS IN ARCHITECTURE

By JAMES BURFORD, F.R.I.B.A.

No occasion is more fitting for a review of our architectural position than the close of twelve months of activity and effort and the opening of another year. We may ask in what direction is our architecture going; what is the trend of its development? We may find that if indeed our architecture is still in "a terrible state of chassis," there are some indications of its advancing towards a path of orderly continuity. Not for a moment would we prophesy that consummation in the next twelve months or many a twelve months to come. There are plenty of milestones ahead.

A glance round almost any exhibition of competition drawings will suggest the lack of clarity and unified direction from which we yet suffer. How many of our designers worship at the feet of strange gods! Gods of the Scandinavian Valhalla at the third, fourth or fifth reincarnation. Nor is the Negro-Grec without its devotees. Some follow Queen Anne, others the Queen Mary. And the Moderns, too. All hope their Golden Calf wil prove the goose that lays the golden egg. There's a welter to be in! But one thing is clear. One decided forward step has been taken. We have renounced emphatically the pettiness, the trivialities of past decades.

Some, indeed, have renounced these things so utterly that we stand embarrassed before their stark creations. These are of the School of Logic. Their argument—If it is logical, it is right. Well, it may be right, and sound ground to build on, but some of us presume to doubt whether it has yet the right to be termed Architecture. Is there not a story by Hans Andersen about the Emperor's clothes?

We shall be told, of course, that nudity is attractive if the body is good. That brings us to the point. Too often these Modern buildings ignore the virtues of a surface texture. "Modern" in this sense labels a building designed with a strong and even overwhelming bias towards the purely technical aspects of the problem. Their form not infrequently has points for commendation. On the other hand, a careless or haphazard arrangement is too often excused in the name of frankness. But what is missing on the whole is this virtue of surface texture. We are aware that its desirability may be disputed. But some, even many of us—and the general layman and public are here included—have escaped, and hope always to escape, the disease of frigid intellectualism. We look for sensual pleasure from the materials by which a building is visibly constructed. Those to whom this sensual pleasure is anathema, and, it seems, there are some who are shrouded in the night of their own intellect, will not be able to agree with what we say. But, these apart, what we others miss, and there are indications that many of our designers are, at least, partly conscious of the lack, is the satisfaction of the senses by the means employed. What is too often missing then, is, in one word, craftsmanship. Craftsmanship implies a sense of the means in relation to the effect. This is not the same thing as a sense of the means alone. There is a world of difference between the craftsman and the mere executant. Craftsmanship achieves a perfected relationship between the means employed and the end desired. Each is modified by the requirements of the other until this harmony is attained. Mere execution is the exercise of skill without reference to the material on which it is exerted. In craftsmanship the two elements are in complete co-operation.

Keeping the discussion on the plane of realism, if architecture is good building, ordered and controlled to express an appropriate emotion (or something along those lines), then sheer skill in building, that is, in craftsmanship, may not be neglected. There is much to be said for the dictum that the best school is practice. (Aye, there's the rub.)

The design for many a "Modern" building, of the kind we are here considering, has on paper a form and character which give pleasure and satisfaction, whilst the realisation of the design causes disappointment or worse. What is there to account for this discrepancy? It is due to a failure to co-ordinate the intention with the means, a failure, that is, in the craftsmanship of building.

The fact is that some of our "advanced" designers have advanced beyond the possibility of practical achievement. Let us honour duly their spirit of adventure, but there is no getting away from it, the means required for the realisation of their dreams, practical as those dreams purport to be, do not yet exist. It is a question of evolution and of growth, and not of imposition.

Concrete or ferro-concrete, the "Modernists' hope," will not yet do the trick. As a purely constructional medium we seem to have gone a long way towards mastering its technicalities. But we are talking here of architecture, of something which requires far more than technicalities to achieve its end. Our craftsmanship in concrete (not our execution) is lamentably behind the expectations so often held for it. Experiments will continue and they may succeed. Or they may not. There may be in this material inherent characteristics which may prove an insurmountable objection to its exclusive use as the constructive material of habitable buildings. Such, for example, are its homogeneity and its inevitable expansion and contraction. Events may prove this surmise wrong. But the indisputable fact remains that craftsmanship in concrete has a long, long way to go. But then, after all, what a long, long journey our more accustomed craftsmanship has made.

Here, then, is the dilemma.

In spite of the heterogeneity of much architectural work to-day, a review of the achievement of the past year gives, in one respect, a hopeful sign of a unified progression. Persuaded, partly by outlook, partly by economic pressure, towards an architecture of considerable simplicity, designers in general are tending to put more reliance on the æsthetic quality of the materials of construction. The æsthetic effect in large measure is co-ordinated with the means employed. In other words, craftsmanship is making a more important contribution to the architectural result. In this respect manufacturers have not been slow to follow the designers' lead, provided that lead has not been beyond the bounds of practicability. But architecture in practice is generally and inevitably conservative, and in consequence the manufacturers' contribution lies rather in the improvement of recognised materials.

There seems, indeed, to be a possibility that this economic pressure towards simplicity and the parallel reliance to a wide extent on the virtues of good craftsmanship may do much, and perhaps more than any other factors, to bring about some unity of style and effort in the immediate future. That, at least, appears to be the conclusion reasonably drawn from present-day achievement. It is, perhaps, as well for the future of architecture that some such inescapable control should have its bearing. The very extent of our knowledge, the plethora of books, the ease in gaining information, create a danger of diffusion in effort and result which discipline may curb.

Probably there are few architects who will not welcome circumstances apparently so inevitable as guidance to their work. Many will feel that their hands are strengthened by a movement towards a common end. The history of art shows that the greatest works have been achieved in periods characterised by lively ideals within a singleness of aim. There has always been in such times ample room for the exercise of individuality within the limits of the common trend. From such exercise advances have been made, and from those limits individuality has gained its force. It may be assumed from much of the work now before us that the main stream of architectural development will gain in power and vigour from the slow process of adaptation of form and means to the obligations and necessities of circumstance. The control of architecture is largely and inevitably out of the hands of architects. To a degree, not to be minimised by theory, architecture is the product of the people, the place and the time. In interpretation of these factors the designer has his special field. That, by itself, gives no assurance of unity of action. But the point to be gained from the evidence before us seems to be that some common interpretation of those factors is being gradually formed.

Some such unity of outlook and interpretation cannot but be to the advantage of architecture and of architects. The architect to-day, it must be confessed, is something of a starved artist. The canvas he requires is so vast. Much of the money he would like to spend on it goes in purely technical equipment. In that respect the requirements of the time must be accepted. It has been said that in this age we cannot afford a scenic architecture. The complementary question is: Can we afford to be without it? More than ever in this haste and hustle in which we live, in our constant effort to fill time over the brim, we feel the desire and the necessity for a unified background to our lives. We need a still contrast to the swirl of our activities. Diverse and individual works of individual architects, however excellent within themselves those works may be, seen together can only add to the restlessness around us. Unified endeavour and, in essentials, unified means, alone can give us what we ask for. These things alone can restore dignity and delight to our cities and our towns. Can we not hope that it is towards this end that our architecture goes?

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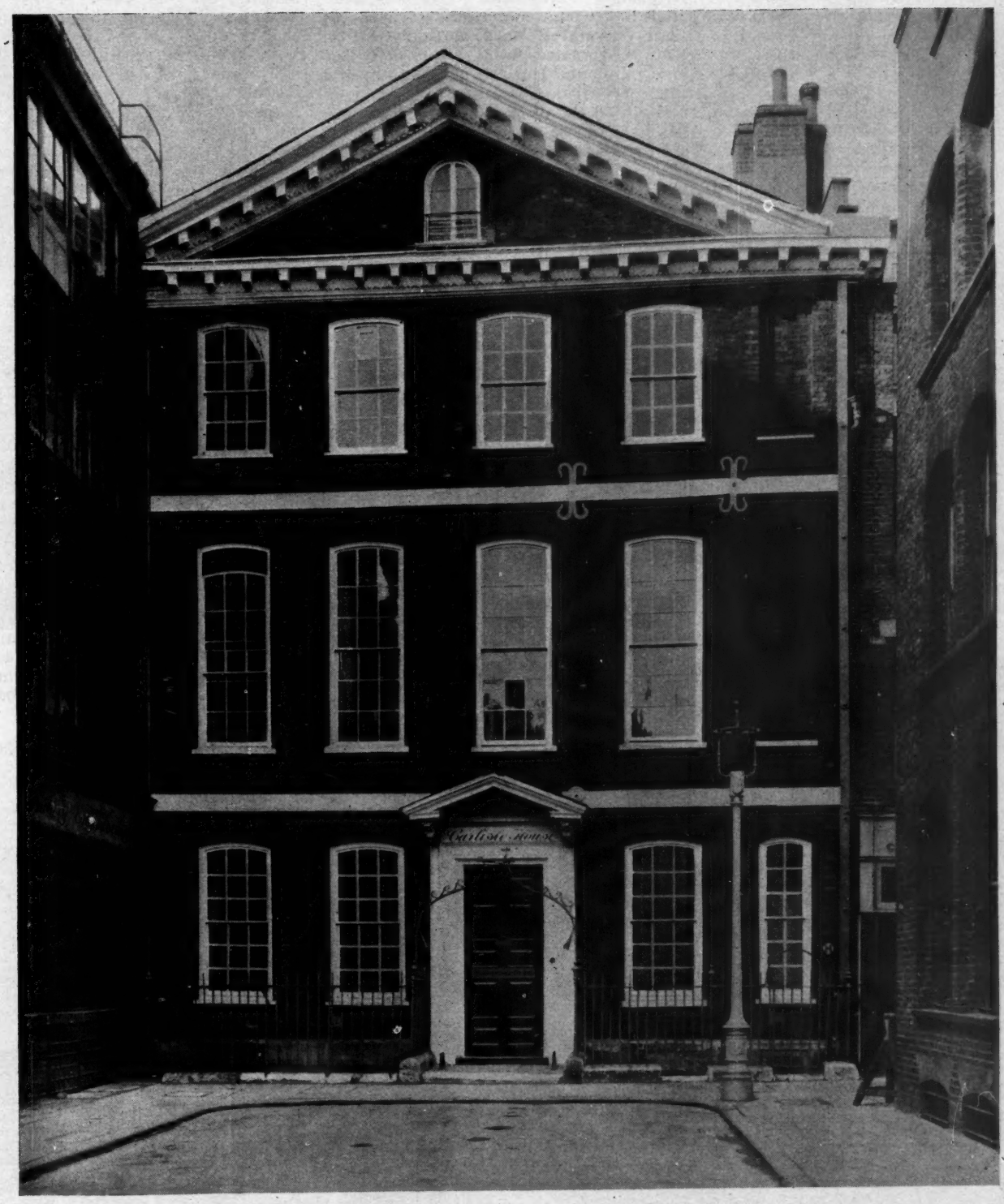
If anyone presumes to say "Monotonous!" we'll say to him, "You have no common spirit, sir. You will tell us next that the architecture of the Middle Ages was monotonous."



CARLISLE HOUSE, CARLISLE STREET, SOHO. (Attributed to WREN.)

(See article on page 52.)

CARLISLE HOUSE, SOHO

ITS PRESERVATION BY THE BRITISH BOARD OF FILM CENSORS

At a time when intensive and widespread rebuilding is involving the disappearance of so much old work, particularly of the seventeenth and eighteenth centuries, it is a pleasure to record any instance of wise preservation, and the pleasure is enhanced when a building happens to be a fine example of its kind and period. Such is Carlisle House, Carlisle-street, Soho, which has recently been taken over by the British Board of Film Censors as their headquarters. Many who cross Soho-square must have glanced down the little turning (almost a *cul-de-sac*) on its western side, and noticed the aristocratic-looking house filling the end, with its mellow brickwork, white-painted sash windows, modillioned pediment and wrought-iron link extinguishers before its handsome door; and must have wondered how much longer such a fine old house could be expected to survive in a region that is rapidly changing. Fortunately, the building is safe, and is likely to be preserved for all time, the British Board of Film Censors having purchased the freehold, and decided to maintain the house in its original condition, whatever may happen to its surroundings.

The Authorship of the Building.

Carlisle House is obviously of the late seventeenth century, though its exact date of building is uncertain. Cisterns in the house bear the date 1669, but this is not necessarily conclusive. The Royal Commission on Historical Monuments puts the date vaguely as *circa* 1700. The house is claimed to be by Wren, and it may be so, for it has Wren characteristics, both outside and in. What is beyond doubt, however, is that it was built for Charles Howard, P.C., great grandson of Lord William Howard, third son of the fourth Duke of Norfolk, Colonel of Cromwell's Life Guards, and a member of the Barebones' Parliament. He was summoned to Cromwell's House of Lords as Lord Viscount Howard, and on April 30, 1661, was created Baron Dacre of Gillesland, Viscount Howard of Morpeth, and Earl of Carlisle. [It may here be mentioned that the third Earl of Carlisle built for his own use a house on the east side of Soho-square, which was connected with the original Carlisle House by an underground passage, traces of which are said still to exist. This later house, No. 22 in the Square, afterwards was also called Carlisle House, possibly about 1760, but it was pulled down in 1788, and the site is now occupied by St. Patrick's Roman Catholic Church.]

When the existing Carlisle House was built, Soho (the name is said to be derived from "Soe Hoe," an ancient hunting cry), was generally pasture land, with a few cottages scattered about it. Fearing what we should now call "uncontrolled development," Wren, as Surveyor-General, in 1674 petitioned King Charles II. to lay out Soho on town planning lines, and Soho-square (which was originally called "King's Square," after Gregory King, Lancaster Herald, who, as surveyor, was intimately associated with the first buildings in this new district), came into being. Later the little turning now called Carlisle-street took shape. It was then called King's Square Court, and was wider than it now is on the south side of Carlisle House, which unfortunately has had part of its left front and the left-hand corner of its pediment cut off by a modern building.

Strype, in 1720, described King's Square-court as "a handsome broad court fronting King's-square; 'tis a place well built and inhabited, and hath one very large house which takes up all the west end or front; and by which is a little passage leading into a waste ground betwixt Wardour-street and the back of Dean-street; which ground is designed to be built upon, there being a street laid out and some houses built." The "little passage" is still there, but how many miles should we now have to go before we found any "waste ground"? To-day, hemmed in by warehouses, Carlisle House, of which only the front is visible, seems to suggest a patrician being rudely jostled by plebeians; but in the seventeenth century, of course, it was free-standing, a country mansion, surrounded by large gardens, including a cherry orchard at the rear, reaching to where now is Wardour-street, and extending to Soho-square in front.

The Decoration of the Interior.

Internally the house, despite vicissitudes, is but little changed from its original condition. There are several beautifully proportioned interiors, with panelled walls and decorative plaster ceilings. The entrance hall is lined with original panelling, and has dado rail and cornice, the opening to the staircase having a round arch and moulded imposts. The room south of the hall (or "Pine Room") has original pine panelling, now revealed in all its beauty of grain and texture, many accumulated coats of paint having been pickled off. The doors to this room have enriched architraves and overdoors. The main staircase is a stately feature, extending through the height of two floors, having twisted balusters,

(*Continued on page 54.*)

CARLISLE HOUSE : Entrance Hall.

S.W. CORNER OF CHINESE ROOM.

MAIN STAIRCASE, FROM ABOVE.

MAIN STAIRCASE, FROM BELOW.

N.E. CORNER OF GREEN ROOM.

CARLISLE HOUSE, SOHO.

square panelled newels and a panelled dado against the walls, the ceiling having modelled plaster enrichments of early eighteenth-century date. The secondary staircase is also a fine piece of craftsmanship. The south-east room on the first floor (or "Green Room") is a handsome apartment, having an elaborate early eighteenth-century plaster ceiling. Other rooms (not forming part of the original house) include the "extension room," having panelling (*circa* 1720) taken from Bower Hall, Essex (now demolished); and the "Oak room" having panelling of Jacobean character from Mildmay House, while the ceiling is a replica of one that was in the old Palace, Bromley-by-Bow, the original now being in the South Kensington Museum.

The History of the House.

Carlisle House has had a varied and somewhat chequered history. For well over a hundred years it was a centre of fashionable social life, and many famous people crossed its threshold to attend the brilliant functions held within its walls. It was sold by the Carlisle family during the second half of the eighteenth century to Lord Delaval, who partly redecorated it. His Lordship in turn sold it (in 1763) to Angelo Tremamondo, a fencing and riding master, who built a riding school and stables in the garden at the rear. Angelo retired in 1782, but his son carried on the school at Carlisle House until 1790. About 1813 the house was occupied by Mr. Simpson, the artist-assistant to Sir Thomas Lawrence, and later by Gibbs Rogers, the sculptor and wood-carver. Subsequently it became known as Whittaker's Hotel, when it was much patronised by country clergy visiting London. Afterwards it was let out in tenements, and was allowed to lapse into a sad state of dilapidation. In 1899 it came into the hands of Messrs. Keeble, the well-known firm of period decorators, who restored it at considerable expense and made it their headquarters. Messrs. Keeble recently disposed of the property to the British Board of Film Censors, with whom they have co-operated in its redecoration, which is now complete.

A Link with Dickens.

A point of literary interest worth mentioning is that Carlisle House was the home of Dr. Manette and his daughter Lucie in Dickens's "Tale of Two Cities."

Such, briefly, is the history of Carlisle House. All lovers of old London and of fine historic architecture will be glad that this beautiful old building, which has witnessed so many phases of London life during about two and a half centuries, has been saved from the housebreakers and, under the care of the British Board of Film Censors, given a new career of usefulness. Architects, in particular, will be grateful to the Board for having decided to preserve the building in its integrity. There are instances of fine old buildings that have been so completely "adapted" that little remains of the original work. In such cases it is a question whether destruction were not a better fate. Carlisle House is still the aristocrat among houses that it was originally, and so it is to remain till the end.

[For many of the facts contained in this article we are indebted to an excellent brochure entitled "The History of Carlisle House, Soho," written by Mr. J. Brook Wilkinson, and published by The British Board of Film Censors.]

ART, INDUSTRY AND THE STATE

By "ISIS."

It would lessen the apprehension felt by some at innovations and changes that appear subversive of tradition, were it recognised that what they regarded as permanent changes were really not so. Time's changes do not cease, but to see them in their true perspective is difficult. Change may be in either of two ways, the drift of events on their own momentum, or the intelligent direction of them. We either guide them, or are overwhelmed by them. Equilibrium is always hard of achievement; youth pushes forward, welcoming danger, and is even iconoclastic in breaking down old images of former regard. What concerns us is the nature of these changes and their bearing on human welfare. Modern building development, the factory type of dwelling house, the multiple flat, should not be the last word. Developments divorced from tradition—or what we call tradition—may be replaced in but a few decades, or even less, by some reuniting of the broken link of tradition, as imagination and feeling penetrate them again.

We are led to this conclusion in considering those changes affecting the place of art, which industrialism has brought about, and by which the standard of values has been so much altered. If not for the good, they cannot be lasting, for one has to perceive that civilisations are mortal, and that their endurance is not secure. We realise that the machine has an important service to perform, though in its present lowering of standards and fostering of substitutes we see a peril to the good. The old standards of craftsmanship, of excellence as its own reward, permanent in character, fighting against decay, is tending to become lowered to ephemeral values only. There is acknowledgement of this in the many endeavours actively pursued to promote art in industry (thereby acknowledging the loss), though, as we think, mostly falsely pursued, as they nearly all proceed from a conception of art which would present it as a mere hanger-on of industry, or to be absorbed in what was already there. The true nature of the problem is to encourage art from the opposite end, so that its influence spreading downwards, should embrace industry.

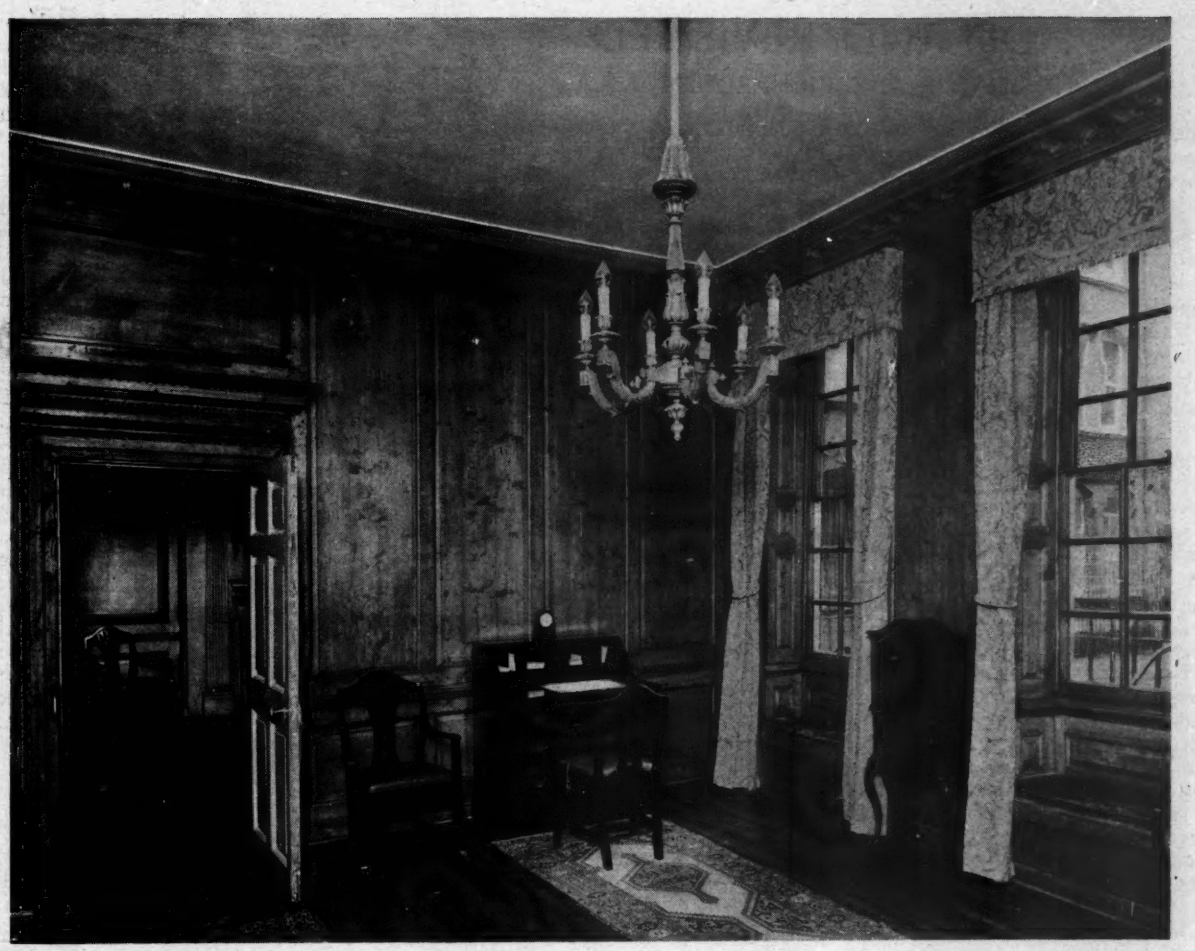
In considering the question of any real advance, we have to regard the grave situation in the arts. Is the contribution of art with its attributes of imagination, vision and feeling, important to the State, and can the artist shape his life to conform with worldly aims, or is the trouble that we expect him to do so, caring more for how he can market his work than how he does it? Or is the contribution of the artist to the State one which should be supported in the same way as shipping or sugar-beet? Without assuming its importance to be above either, we are justified in asking if it is not equally important, and, if so, should it not be kept in full activity?

If we would turn our eyes away from material things we should understand the loss of art to be one of the greatest losses to civilisation. Nor are we here concerned with exceptional endowments only, but with the artist in all of us, the worker in industry whose natural impulse towards creation has been frustrated by the machines, and yet is seen to have existed whenever there was freedom enough for its emergence. At an exhibition some time ago we saw samples of glass of the newer kinds available for extended use in building and other ways, and were struck by the general violation of æsthetic values in their colour and texture. It is suggested that in their use together these glasses can produce æsthetic values of their own, though unable to be harmonised with those more traditional values in art. It would thus appear that there are two contradictory values which go their separate ways. And an instance is seen in the art of stained glass. Are then, the old standards dead which once governed industry and preserved the human touch, now surrendered to the machine? Or are we disguising from ourselves the fact that the prevailing direction is opposed to the survival of æsthetic values at all? We prefer rather to believe that the new epoch in its striving, built on present achievement, will recover again the more direct human touch absent in the machine.

The only possible way for this lies in the organisation of the arts on a national basis, with security of means and employment for the artist, and an understanding that æsthetic values in the machine product are almost entirely absent. The effort to restore art to industry begins too low down, and it is the habit to ignore the arts except in their direct usefulness to industry. But the usefulness of art is a much bigger thing, and not to be limited in this way. How, then, shall the artist in us survive under the pressure of the machine age, which penetrates our thoughts so that it largely governs all our thinking? The problem is surely removed from the machine to man's use of it, where, in fact, the problem always lies.

Improvement in art must not be sought as the means of one sort of profit only, and that the commercial one. Art is not a commercial proposition, or we should have had it dominating industry years ago! Its importance must be realised, not as the hanger-on of industry, but as being essential to the welfare of life. We must therefore seek its restoration, not only as an adjunct of industry, but of life as a whole, and embrace the subject as a whole, and not at the wrong end first. It has become the habit to despise the arts that do not immediately contribute to industrial uses, though it is the vision and imagination of the artist and his prerogatives, not necessarily related to industrial promotion, that need most to be secured. It is for the State to undertake that the place of art is secured. What America is doing, what Russia is doing in furthering the arts as one of the most important national interests, can be achieved by us, and we must proceed on the understanding that it can only be achieved in a national and not a partial way. Statesmanship should be equal to setting on foot so progressive a movement—one long overdue and never more needed than at the present uncertain and anxious time.

Art is the school of the imagination, and vision is only reached through its reconciling influences; and it is because imagination has been neglected in the rapid advance of knowledge that we so deeply need the inspiring influence of the arts to interpret and restore what knowledge alone cannot give. We cannot understand what we know without this transfiguring influence, by which we test reality and acquire the fore-knowledge to interpret. In this sense we understand that beauty precedes freedom and offers reconciliation to the world.



THE PINE ROOM, LOOKING NORTH.

THE NORTH-EAST ANGLE OF EXTENSION ROOM.

CARLISLE HOUSE, SOHO.

(See page 52).

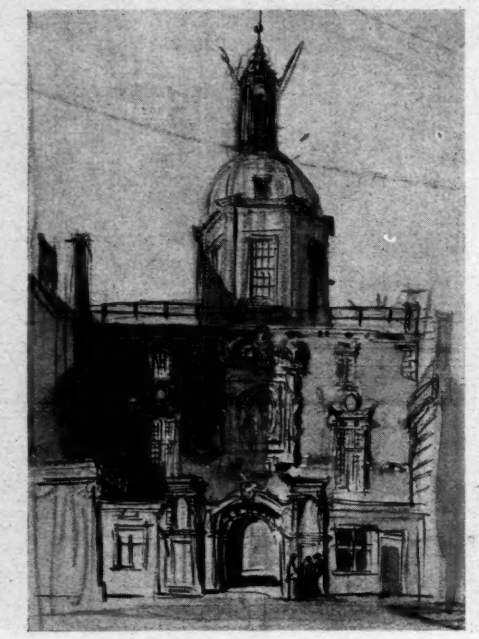
HOLLAND REVISITED

By PROFESSOR A. E. RICHARDSON, A.R.A.

One splendid morning in September last, without much previous arrangement, I found myself, carefree, with a devoted friend, on the morning boat train at Liverpool-street. We were journeying light, as all old travellers do, our baggage limited to bare necessities and sketching gear. The immediate destination was Flushing; after that patient wanderings in the age-old streets of a score of towns and cities, as well as investigations of contemporary settings. Fortunately, the direct eastern course across the North Sea was smooth; we arrived in the waters of the Western Scheldt between the islands of Walcheren and Beveland about 4.30 in the afternoon, and soon after five landed at Flushing.

The first part of the tour was devoted to the Isle of Walcheren, but there is no need to dwell on trivialities. The contrast to the English scene is all the more remarkable because you are transported to the 17th century. The picturesque costumes made familiar to your eyes by Rembrandt's drawings are still worn in the streets of the towns of this region. Everything hereabouts belongs solely to the district. Windmills, canals, drawbridges, the groups of cattle in the "low-lying" meadows, the prevalent neatness and the goodly brick houses combine in a delightful tapestry. Here in these flat lands you think is to be found the secret of Dutch art. You begin to appreciate the need for soaring towers with interesting silhouettes. In fact, piquancy of design in architecture is the reaction from the general lowness. At Flushing was born De Ruyter, who commanded the fleet of the Dutch Republic during part of the 17th century. The town to-day has very little of outstanding architectural interest.

The next objective, Middleburg, the capital of Zeeland, is a fine town. You read it was here that Zachariah Janssen, in 1590, invented the telescope. The two outstanding examples of architecture (the Abbey Church and the Town Hall) belong to the mediæval period of the town's prosperity. The tower of the Abbey

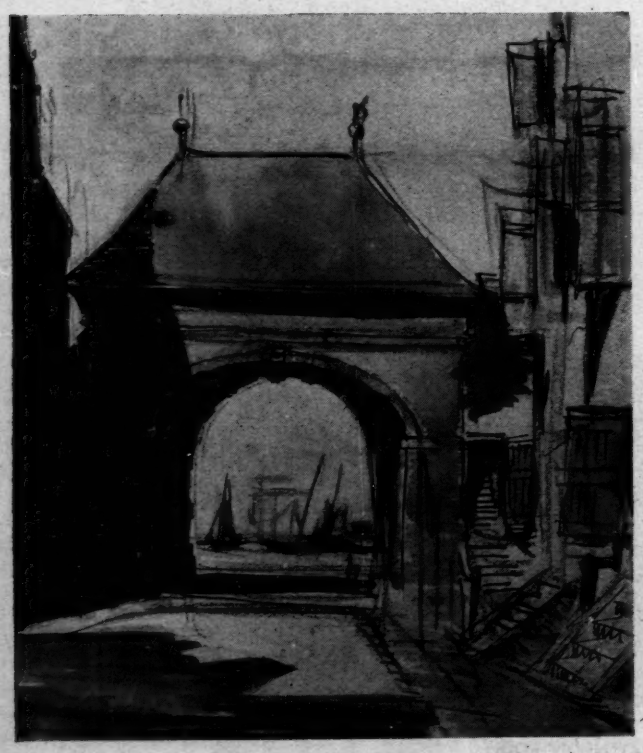


THE GREAT GATE, DORDRECHT.

Church, "Lang Jan," is the most striking landmark for miles. The superstructure is covered with copper dressed to fit the bulbous contours and intricacies of the design. From its summit on a clear day the tower of Antwerp Cathedral can be seen. The Town Hall in the Market-square offers a decided contrast to its gigantic neighbour. This ornate building belongs to that species of late 16th century Gothic which is more fantastic than grotesque. The playful character of the detail, with the niches for 25 colossal statues of the Counts of Holland, no less than the unique placing of the towers behind the main façade, renders this building an object of delight. After miles of tramping on hard pavé there is nothing more restful than taking one's evening coffee at the table of a café in an old market town and watching the play of light and shade on the buildings while the carillon records the passing of time.

The streets of Middleburg are rich in brick-fronted houses dating from the end of the 17th century. There is the fine baroque town house built on a concave plan which is so well known. The old town of Veere, known in England a century ago as Kampveer, is a true Mecca for the artist. The chief sight is the Scotch House, formerly the place of resort of the Scottish merchants of the 16th century. The diminutive Town Hall, with its elegant tower built by the architect Skelderman, is also very charming to look upon. But the most impressive monument is the partly ruined Abbey Church, which Napoleonic engineers converted into a military hospital at the time of the Russian campaign in 1812. Here can be studied the secrets of Gothic structure, the value of scale and volume in a great interior. One leaves the church with amazement at the daring and ingenuity.

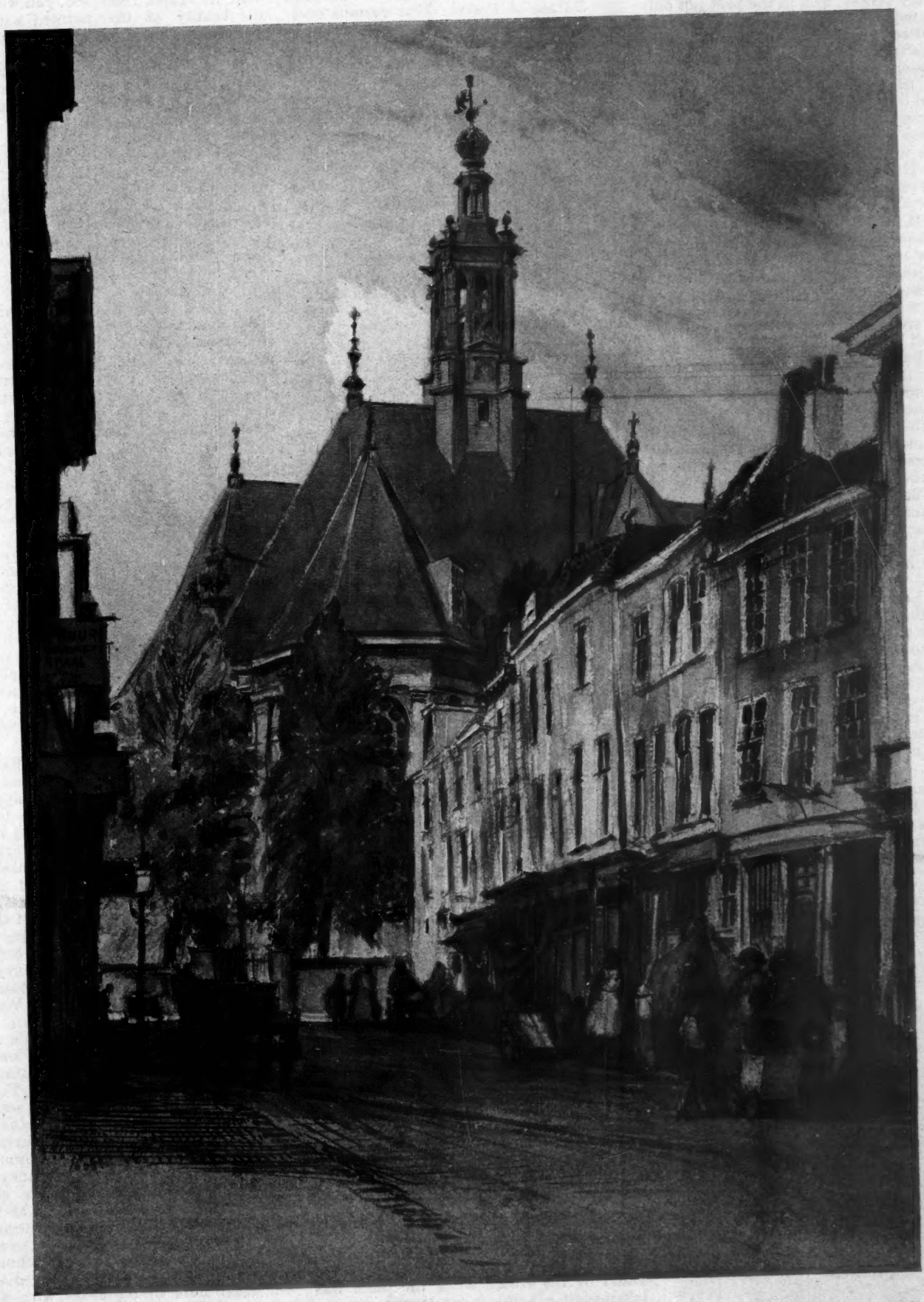
There is nothing enthralling at Zierickzee except the gigantic church tower at Bergen. Op. Zoom, little of building interest to attract. Dordrecht, the next objective, proved to be worthy of an architectural siege. And so after many excitements to Dort, or Dordrecht, which as a city can claim to be the most ancient in Holland, having been built in the 11th century by Count Thiery the Third. This was the birthplace of the Grand Pensioner Jan de Witt. All the private buildings as well as the warehouses of Dort, excellent as they are individually, appear diminutive by comparison with the Great Church. This interesting mediæval building owes



CATHERINE GATE, DORDRECHT.

DORDRECHT.

From Drawings by PROFESSOR A. E. RICHARDSON, A.R.A.

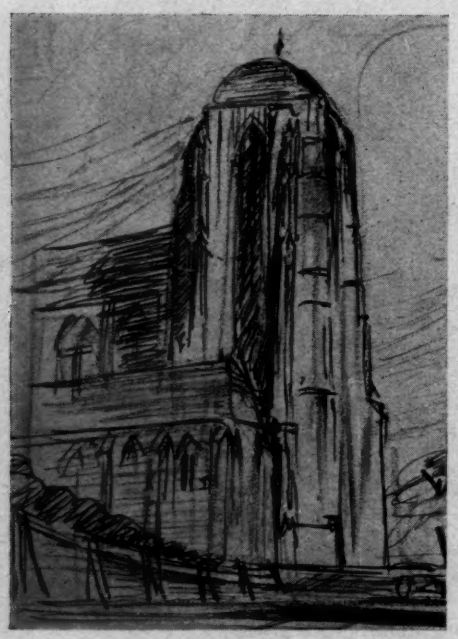


THE NEW CHURCH, THE HAGUE, HOLLAND.

From a Water-colour Drawing by PROFESSOR A. E. RICHARDSON, A.R.A.

much to the placing of the tower, and particularly the 17th-century clock frames at the level of the parapet. It is impossible to visit Dordrecht without entering into the spirit of those spacious times which produced the maritime greatness of Holland. You are in the presence of a seafaring people, who in the past not only navigated the known globe, but whose enterprise founded New York and planted colonies in the Far East. In these truths is the reason for the scale of the merchants' houses, the richness of the furnishings, the interest of sculptures, paintings and tapestries. You conclude: "It was these self-same merchant princes who acted as patrons to the genius of the Dutch artists of the 17th century." You can imagine that several pleasant days were spent, sketch-books in hand, in this ancient seaport. How enthusiastic we were to see the beauty of the Catherine Gate, the massive scale of the Great Gate, the soaring majesty of the Great Church, and the huge size of the 17th-century gate piers to the west front. It is well known that Dutch architecture, like Dutch painting, "fell off" at the close of the 17th century. But there is no denying the fact that for the elevations of lesser buildings the grand manner for brickwork lingered on to the time of Napoleon. Even the early 19th-century Town Hall at Dordrecht has a certain urbanity of composition in its contrasting elements. We must leave Dordrecht and Leyden to be examined in greater detail on other occasions, as well as Rotterdam, with its closely packed streets, modern suburbs and housing problems. At The Hague travellers encounter another facet of Dutch life and social customs. At Scheveningen, the adjoining popular seaside town, can be seen all the contraptions of a modern watering place. Here the effect is far from convincing. Yet it is possible to trace the contours of the ancient sand dunes and to reconstruct the scenes shown on the canvases of the great painters of the 17th century. But of the modern hotels and the pleasure palaces there is nothing to commend; one can only exclaim at their heavy vastness.

By contrast at The Hague, the Government centre, the Royal Palace, the Maurits House, the Town Hall, and the mansions of the nobility form the several attractions. True, there are other fine mansions in the principal streets, as well as many new drapery stores reminiscent of similar establishments in other countries. But, willy nilly, the tourist cannot resist the magnetic attraction of the centre of the city any more than ambassadors and plenipotentiaries fail to stay away from chancelleries. In my enthusiasm I almost forgot to mention the Palace of Peace. This curious overgrown town hall belongs to the period of the early 20th century. It was the outcome of an international competition held at a time when pomposity was favoured. Evidently the assessors thought more of the pseudo-picturesque elevations than of the real character of the project. It is only 22 years since this building was completed, and it can now be viewed as most people who recall the unsatisfactory competition may have desired at the time.



THE GREAT TOWER, VEERE.

Among the many architectural triumphs, the New Church, built in the year 1654, is the most worthy. This building was remarked upon at the time of its erection as a triumph of constructional skill—the steep-pitched roofs, the double transepts and the unique lantern turret at the centre marking a departure in church design. (Spinoza is buried in the churchyard.) It would be committing a sin of omission if the more recently built commercial premises were passed by. These buildings are mainly constructed of yellow Dutch brick of small dimensions, resembling old clinker in colour. The prevalent mode for horizontal windows with metal frames follows the fashion for similar works in every European city.

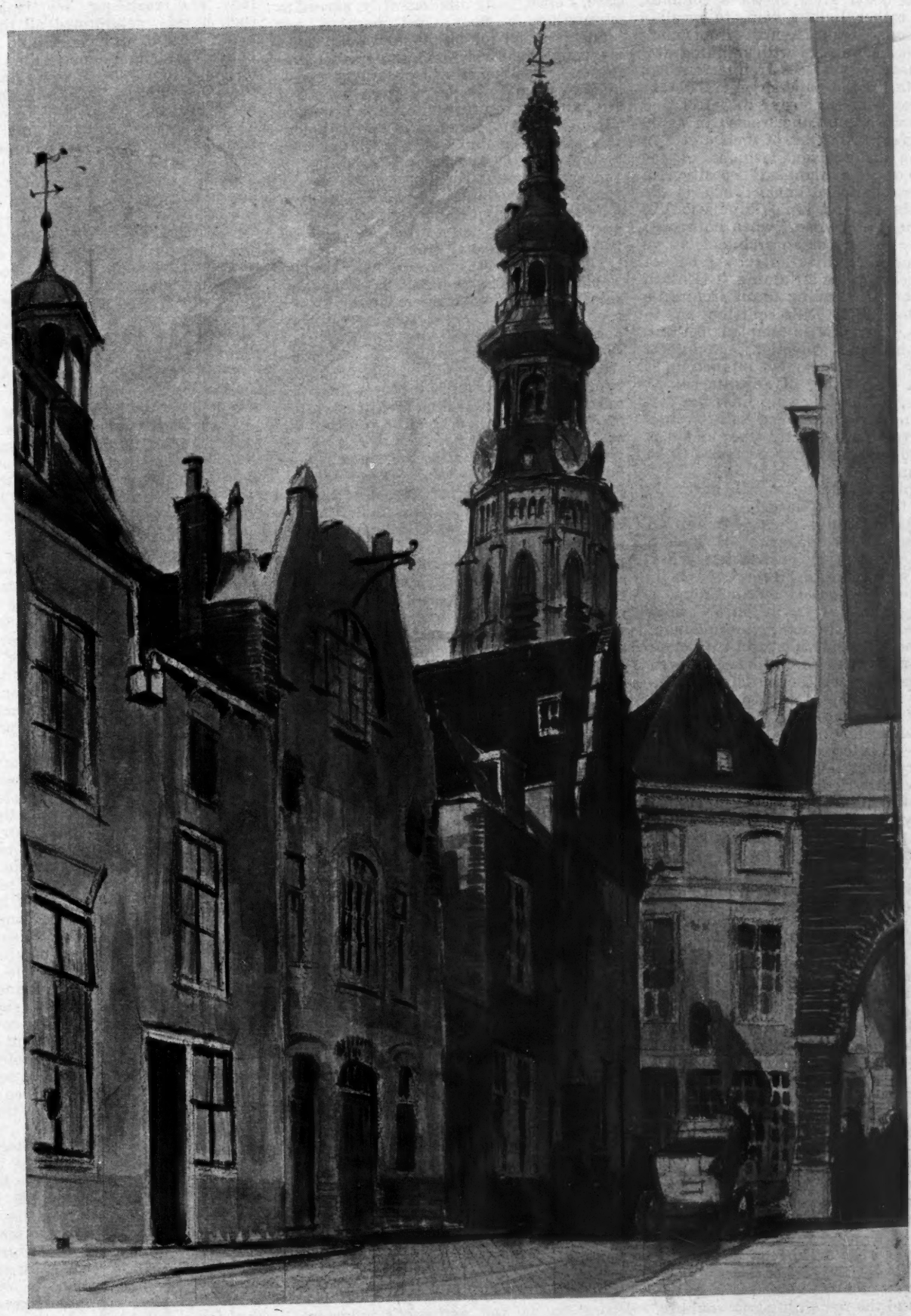
The chief merit of the Dutch commercial buildings is the handling of the continuous shop-fronts at the pavement level. The repetition of long horizontal windows for the upper stories presents difficulties. Therefore, it is not surprising to find that to attain a definite and dramatic contrast between void and solid as well as to avoid monotony the architects have shown exceptional skill in the choice of treatment of brick as a medium for expression.

The Dutch have been, and will continue to be, a people gifted with colossal energy. Their continual urge is to compete with Nature, to keep the dykes in repair, to thrust back an arm of the sea, to reclaim hundreds of square miles of arable land. Herein is the reason for tireless endeavour in architecture, that sublime discontent which encourages continual invention, yet one cannot help but feel that much of what is praised to-day for its originality has been accomplished before. The reclaiming of swamps on which to found cities, the uplifting of masses of material to form gigantic landmarks, such as the ancient towers and steeples as well as the great churches so prodigious in scale, all are part of the process of Dutch continuity. And so in pursuit of novelty in architecture we come to Amsterdam.

Here is a city vieing with Venice herself, both belonging to the sea. Yet Amsterdam became famous only when the glory of Venice was departing. It was not before the middle of the 17th century that the name shone like a beacon on the old maps, and that New Amsterdam attracted the cupidity of the English. In the Bedfordshire town of Ampthill lies buried the famous Nicholls, who was killed by the Dutch when the place was taken—but all this is irrelevant; we are here for the purpose of viewing the architecture. First, we will mention the churches and the steeples, which are conspicuous in the perspective views of the city. The West Church has the loftiest steeple, rising to 300 ft. There is the New Lutheran Church, built in 1822, with the handsome copper cupola. The Old Church, dedicated to St. Nicholas, is one of the most fascinating. Here can be seen the tombs of the Dutch admirals Heemskerk, Van der Zaan, Zweerts and Van der Hulst. Here, too, you will admire the beauty of the painted windows as well as the clear glazing and the whitewashed interior. Among the classical buildings, the Palace, formerly the Town Hall, is the most striking. Amsterdam provides innumerable subjects for a sketching tour. The houses on the Gentleman's Canal in particular have an affinity with those built during the period of William the Third in England. Everywhere can be seen the delightful façades which intrigued both Evelyn and Pepys, and behind all the dignity of proportion and homeliness can be discerned the hand of the justly famed Vingboons.

Amsterdam is a city of treasures; it is a liberal education to visit the picture galleries, and not the least of an architect's duty to grasp the meaning of Dutch brickwork. But for the sane foundation of centuries of brick building, recent experiments in brick would be shorn of half their success. You roam the streets of Amsterdam, or you take passage on the canals, and marvel at the way the Dutch have tamed Nature. The waters slide smoothly along the brick-lined banks of the cuts as easily as if they were contained in open water-pipes. Yet none can complain that the canals are monotonous. The houses on either side, each with a storeroom and hoisting wheel, are neighbourly. There are strange conceits of carving and wrought-iron, and everywhere a sense of scale. The buildings all have the character of the Dutch nation, and the modern ones, some of which are odd in shape, have inherited the strength of this tenacious people. Above all stand the steeples of the churches punctuating the skyline and adding from the brazen throats of hundreds of bells the melodious clangour of folk song tunes.

We arrived at Hilversum on a Saturday afternoon and made for the Town Hall; everybody to whom we spoke appeared eager to act as our guide. At last we came upon the Civic Centre, and having been duly impressed with the exterior, we were conducted on a tour within. It seemed to us to be a pity that such a bold design should have been interpreted in inexpensive products; many of the flat roofs are covered with a species of bituminous material. The ordinary houses and shops of Hilversum have been inspired by similar English buildings at Hampstead Garden City and Welwyn. They are only slightly modern. The black tiles and the treatment of the verges to the gables are the chief features. Here the fashion of the horizontal sash bar is everywhere in evidence. Finally, we journeyed to Utrecht to see the remains of the Great Cathedral, the nave of which was totally destroyed during the hurricane of 1674. Here the tower and the choir lend reality to the fancy that this was a construction of the giants. Here at last we encounter great architecture, the product of religious enthusiasm and of genius—architecture not one-man deep, but the product of ten thousand minds. We found what we longed to see—a great bulk of buildings with a permanent scaffold of stone buttresses merging into a gorgeous fantasy of form. Here was an especial expression in architecture of the power and spiritual depth of humanity: a small part of the artistic contribution of the most corporately balanced period the world has yet seen.



THE OLD CHURCH, AMSTERDAM.

From a Water-colour Drawing by PROFESSOR A. E. RICHARDSON, A.R.A.

REMINISCENCES OF AN ARCHITECT

BY A. EDGAR BERESFORD, F.R.I.B.A.

In an anniversary number like this it may be permissible to depart somewhat from the usual style of these columns, and, in rather lighter vein, to recall a few personal reminiscences from one's experiences connected with building during the past 40 years. Architects, when they write for the papers, generally take themselves very seriously; they feel that they should occupy themselves in defining the great principles of their creed, in discussing the warring fashions of the moment, or in a dignified exposition of their most cherished aims. They do not always observe Ruskin's stipulation in "The Stones of Venice," when he wrote: "We may require of an architect, as we do of a novelist, that he should be not only correct but entertaining." Ruskin was, of course, alluding to an architect's work rather than to his contributions to the Press. But one is tempted to think that if, in both directions, architects would try to remember his injunction, it could not help being of advantage. At all events, in the following lines the correctness may be guaranteed: all the incidents narrated are strictly true; and it is hoped also that they may be found to be entertaining.

An architect's memories will naturally concern themselves largely with the idiosyncrasies of his clients. What an experience of the vagaries of human nature is afforded by only a few years' dealings with building owners! It is curious how the ordeal of building a house for himself (for instance) brings out all the latent characteristics in a man. Some, apparently cautious and suspicious at the start, become more liberal or even reckless as they see the building gradually grow: others, at first open-handed and full of confidence, become critical and parsimonious for no obvious reason. Generally—as is to be expected—they have only a very vague idea of what the building will actually look like, and a certain amount of disillusionment is inevitable when they first view the rising walls, since the proportions are all falsified by the absence of any height factor. But to allay this dismay is a commonplace of every architect and builder. A more difficult problem comes earlier still: to find out from your client at the very beginning what he—or she—really wants.

One of my first clients was a very romantic artist, who demanded that his house (to use his own words) should look exactly like a butterfly which had alighted on the hill-side with wings outspread. He seemed little concerned with its interior—or, in fact, with any practical aspect at all—so long as his roof-slopes rose steeply from ground-level or thereabouts and were slated in variegated colours! A contrasting memory is that of the doctor who cared not at all for the external effect of his house, but stipulated, for hygienic reasons, that no right-angled corners must be left in his rooms: each of them must be filled in with an angle cupboard. I pointed out that this provision multiplied the number of potentially dusty angles by five in each case, but since three would be hidden inside the cupboard and the remaining two would be obtuse and therefore innocuous my criticism was derided and the doctor insisted on his "hygiene."

Most clients have some little fad or other which must be incorporated in the building, and generally it is well to accept these with little or no cavil. To satisfy one who had inherited from an ancestor a large and heavy-looking bookcase, I once, quite unnecessarily, agreed to strengthen a floor: yet perhaps not unnecessarily, for my client would never have felt secure without the special provision. But sometimes one must resist. A lady client who had a great horror of fire, anxious to provide for an alternative escape from her bedroom in case of a conflagration, demanded that the lower sash of the window—an ordinary vertical-sliding sash—should be made much larger than the upper one. It took me quite a long time to convince her that the greatest opening would be secured by making both sashes of equal height.

The ideal client, one sometimes thinks, would set out immediately after he had signed the contract agreement for a tour round the world, or in some other way absent himself until the building had reached a state at which it could be reasonably viewed and fairly comprehended. But that procedure is a little too much to hope for. To us architects, after many years, a new house is just an ordinary job of work, and we have to remind ourselves that to the client it is a far more thrilling and exciting adventure. It may be his first experience of building: it is almost certainly the culmination of years of anticipation and scheming—and perhaps of saving, too—and he is quite naturally most keenly interested in every stage and every detail. Further, as a result of the growth in recent years of many new magazines, the average man and woman knows far more about the details, and at any rate the minor technicalities of building a house, than did the average client of 20 years ago; and this at times is apt to be a nuisance, although it should be a help.

One lady client at her first interview produced a large scrap-book, the work of years, in which she had pasted a host of illustrations culled from the popular magazines, and all carefully collated and indexed. In outlining her requirements in the new house, I was referred to page 25 for the exact type of bay window, to page 117 for the chosen style of staircase balustrade; the hall fireplace must be similar to that on page 40, the kitchen dresser on page 94 was precisely as she wanted it; and so on *ad infinitum*—and also *ad nauseam*! One began to wonder if there would be anything at all left to be designed. It is frequently of very great help when a new client produces a few snipped illustrations to convey rapidly to the architect the general style or characteristic desired, but one must, of course, insist on the undesirability—and frequently the impossibility—of reproducing in a new building some admired feature of another unless it is fully justified by all the conditions.

In the old days average clients did not profess or attempt to understand scale drawings: they were quite content to consider and accept a scheme if submitted to them in the form of a sketch plan accompanied by one or two rough perspectives of exterior and interior, leaving most of the details, both practical and decorative, to the architect's judgment. But that rarely happens to-day. Olympia Exhibitions and the semi-technical magazines have transformed all that, and too often the architect's task is to arrange, as in the manner of a jig-saw puzzle, a group of household gadgets which are apparently essential, and somehow or other to enclose them by walls and roofs, the shape of which is of quite secondary importance.

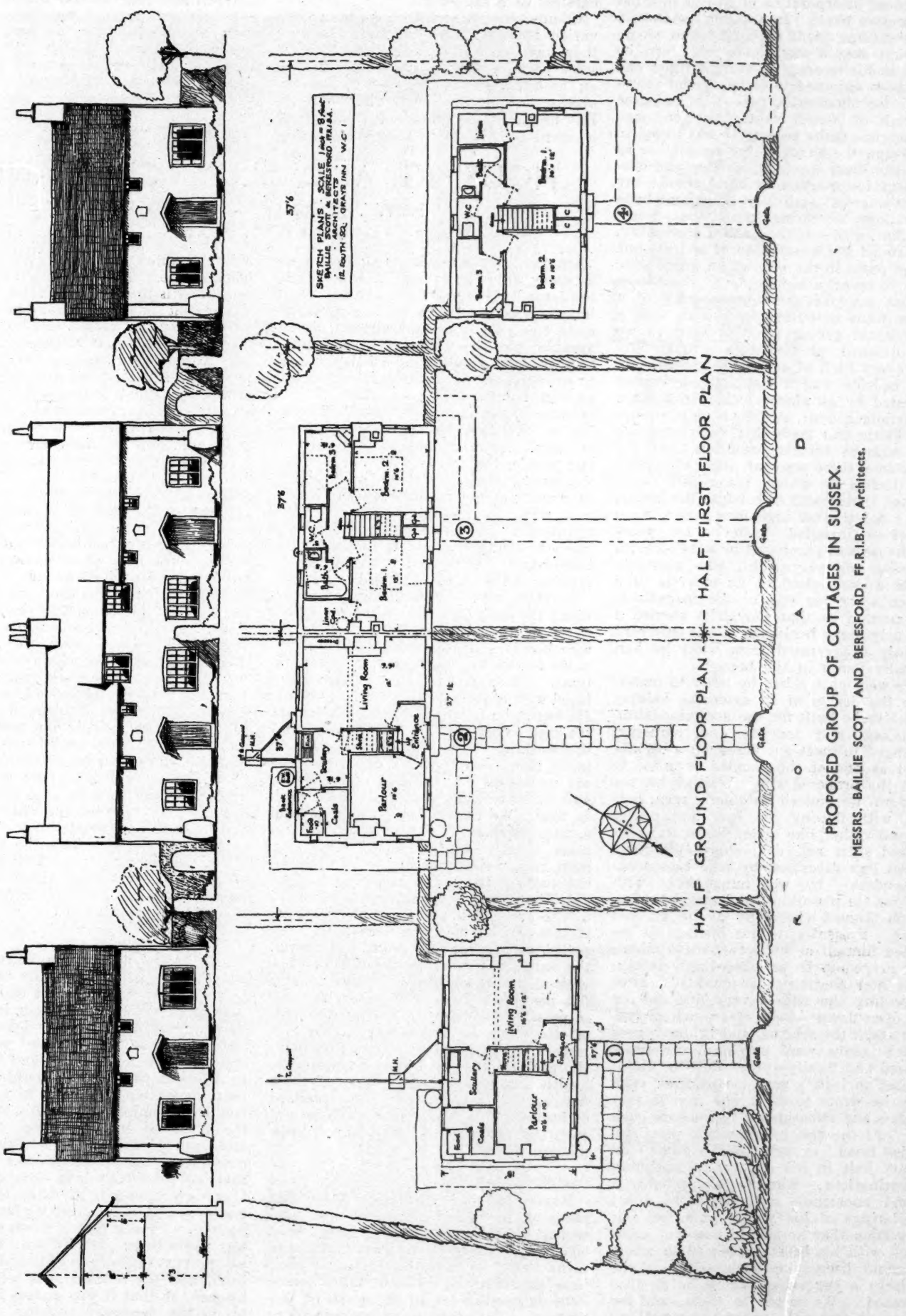
Some clients feel it to be their duty to act as clerk of the works, policing the building constantly. I remember one lady who, realising her incapacity for such a rôle, determined all the same to make herself proficient, and forthwith bought quite an extensive library of books on building construction and studied them assiduously. Presently she began to make all kinds of critical reports to me, which were, unfortunately, marred by her frequent confusion of technical terms. She invariably spoke of "lintol" as "jamb," and of "transome" as "mullion," and *vice versa*; and on more than one occasion quoted whole paragraphs of Mr. Mitchell's valuable manual to prove that her builder's constructive methods were unacademic. It was for a while amusing, but as she persisted in having the "why" and "wherefore" fully explained to her, it became necessary at last to point out as tactfully as possible that the architect's modest percentage fee did not adequately recompense him for conducting a comprehensive correspondence course in building construction.

When they first visit you, most clients will produce a rough outline plan to show the arrangement of the main rooms which appeals to them: generally with a deprecatory: "I can't draw, d'you know . . . but you will be able to lick it into shape." This sketch, at first generally unintelligible, is always worth study. Its main fault, as a rule, is the omission—not of the staircase, but of the fireplaces; or if these are indicated they are often so placed that flues are impossible. I used to think it curious that amateur planners never made the alleged error of every young architect of leaving out the stairs, but have come to the conclusion that this libellous story has become such a well-known classic that all beginners now start by indicating the stairs, and then arrange the rest of the plan round them. (And, after all, that isn't a bad way to begin for any one, lay or professional!) One client of ours, himself a retired architect, brought with him at our first interview his very complete and beautifully finished scale drawings of an old house he had purchased and wished to restore. We drew a few lines only on his sheets which thereafter were traced and a specification prepared. Our client subsequently busied himself in making all the details, which were duly sent in to us for the addition or deletion of one or two lines again. We certainly signed the certificates and checked the accounts ourselves, but for the rest our client did most of the work. As an old schoolmaster of mine used to say when one of his pupils, after being prompted at the beginning of every line, reached the end of the recited verse: "Yes! *We* did it!"

The great boon of an architect's work—even when, as in my case, it is almost exclusively concerned with one branch of building—is that its variety is infinite: no two clients are alike in tastes, requirements, prejudices. One has to learn to be "all things to all men." Thirty years ago, when there was a vogue for inscribing mottoes as decoration—in carving, modelled plaster, and the like—a client asked for a suitable inscription round his bedroom. The suggestion of Coleridge's lines:

"To Mary Queen, the praise be given,
She sent the gracious sleep from heaven
That slid into my soul,"

was received with a chilly intimation that our client was not a Roman Catholic.


SKETCH PLANS SCALE 1/16" = 1'0" and 1/32" = 1'0"
WILLIE SCOTT & BERESFORD, R.I.B.A.
ARCHITECTS
18, SOUTH SQ. GRAYS INN W.C.1
HALF GROUND FLOOR PLAN — HALF FIRST FLOOR PLAN
PROPOSED GROUP OF COTTAGES IN SUSSEX.
MESSRS. BAILLIE SCOTT AND BERESFORD, FF.R.I.B.A., Architects.

More recently when submitting a design for the decorative treatment of a Nonconformist chapel a similarly cutting disapproval was expressed about the proposed incorporation of a cross in a flat decorative panel. In another instance, a superstitious client stipulated that on no account should any shade of green be used in his house. At various times one has been enjoined to make special provision for domestic pets—not pedigree animals of special value, but ordinary mongrels. Quite recently I was urged so to design the eaves of the new house as to make them specially inviting and convenient for martins to build there: my client's great ambition being to have "swallows twittering 'neath the eaves." Another, with a romantic mediæval mind, demanded the installation of at least one secret panel in the wall which would slide back to reveal a hiding-place.

That provokes another memory of a house built in Surrey for a man with a mechanical genius who, as soon as we had finished, proceeded to arrange any and every kind of automatic gadget. By his bedside was a complicated engine actuated by an alarm-clock, which, at a prearranged hour, switched on an electric kettle and made his early morning tea without further attention. At the back-door there were all sorts of reversible panels by which tradesmen could deposit their goods direct into the larder, and a dozen other ingenious devices were elsewhere installed. After a few years the house was purchased by a well-known novelist and playwright, who promptly wrote a description of its marvels in a fiction story for one of the magazines. He assured us that though it seemed a riotously funny burlesque, it was only very slightly exaggerated from what he had actually found in the house.

We were once asked by letter to undertake the design of an extensive holiday hostel to be built for the accommodation of hikers and tourists, and, agreeing, arranged to meet our client on a certain train at one of the London termini, to visit the proposed site. Waiting on the platform we noticed an elderly man, hatless, with flowing red hair and beard, dressed rather like a Boy Scout in open-necked shirt and drill shorts, his bare brown legs decorated by pale blue sock-suspenders. He was hung about with various tin pannikins and water-bottles, which jingled cheerfully as he strolled along. Presently, to our dismay, he revealed himself as our prospective client, and proved to be an exceedingly intelligent and charming personality. After inspecting the site—a very fine one on the open downs—there was much discussion about the scheme, and in due course sketch plans were prepared, criticised, altered and finally approved. Our client seemed to lead a very roving life: each time he wrote to us it was from a new address and sometimes a curious one such as: "At the 21st milestone on the Cambridge Road," or some other similar temporary halt in his apparently unending peregrinations. And it was probably a slight uneasiness engendered by these wanderings of his which prompted our suggestion that he should now put us in touch with his legal advisers with whom we could discuss the business side of the project: a suggestion which he at once accepted. We wrote to them, and by return of post were urged to do nothing more for the old man who—sane in every other respect—was afflicted by a hopeless mental delusion that he must build a hostel. The entire scheme was merely the product of his poor unbalanced mind. Years later I saw him again, cheerfully trudging along a road in Sussex, brown as a berry and apparently as happy and carefree as a sand-boy!

Clients come to architects for many and varied reasons: some no doubt because they have met and liked them socially, some because they cannot avoid having an architect—much as they dislike the necessity—and some for other reasons. But probably the most gratifying of all is when an old client comes back, like Oliver Twist, asking for more. For that clearly indicates in him the possession of a very forgiving spirit, an attribute which we all hope and pray for in our employers.

When lunching one day with a client in a public restaurant I was accosted in a very amiable manner by another customer, who was leaving. "Who was that?" asked my client as I sat down again. "His name is C——," I replied, "I built his house for him six or seven years ago." "What?" exclaimed my client, "and you are still friends!"

HOUSING AND SLUM CLEARANCE

HOW THE BUILDERS HAVE HELPED

By SIR PERCY ALDEN

Sir Arthur Helps many years ago wrote an essay which he called "Towns may be too large." The growth of London would have amazed him. This leviathan that we have created has become almost unmanageable and the action of the London County Council in setting aside £2,000,000 to subsidise the purchase of the green belt around London is praiseworthy if only because of the fact that London is growing at the expense of the rest of the country. We must have more houses for our people, but we do not want them in the wrong place. Urban population is increasing at the expense of the country, and what is wanted is something to counteract the centripetral force which has attracted population to the town, and incidentally compelled thousands of families to live in overcrowded conditions.

Builders and contractors have recognised the evil, and are doing their best to rehouse the slum population. The man who builds a house to-day is helping to atone for the carelessness of past generations. It is not his fault that we are faced with spasmodic or sporadic housing. He has to build where he can, and at not too high a cost. He has to remember that the working classes especially must live fairly near their work, or otherwise they are unable to pay the cost of transport, and, moreover, unable to get to their work in time. We cannot leave the growth of a town to chance. We are demanding a more orderly conception of civic life, more responsibility and more foresight on the part of the municipality. It is impossible to be "doctrinaire" with regard to the type of housing for the working classes. Where men and women are compelled to live near their work in the town, the only solution is the creation of flats, with all the amenities which the modern flat possesses. If, on the other hand, it is possible for them to live on the new estates which are growing up outside our large cities, this method of dealing with the problem is more likely to conduce to health and well being. Many of these new estates conform to a high standard of building. They allow for gardens and open spaces, and they are planned upon modern lines.

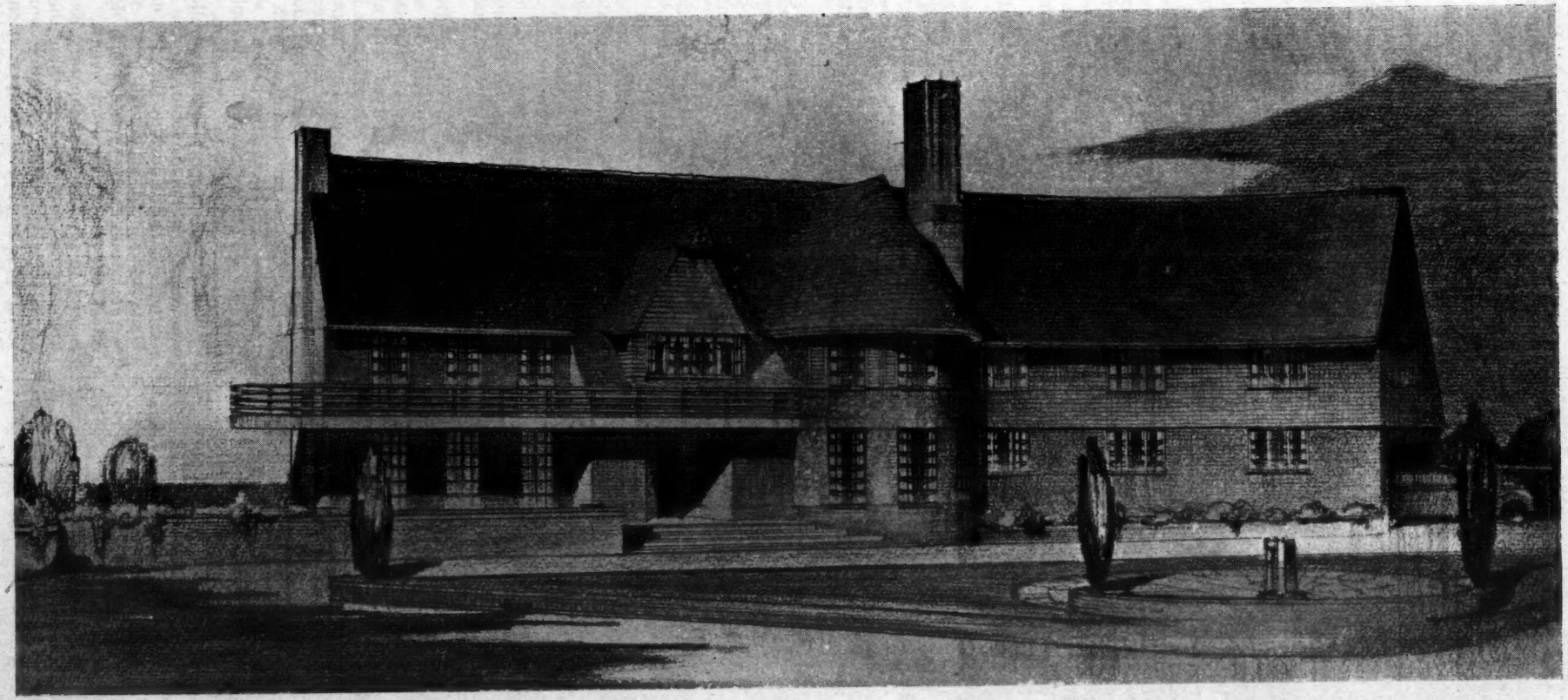
Abolition of the Slum.

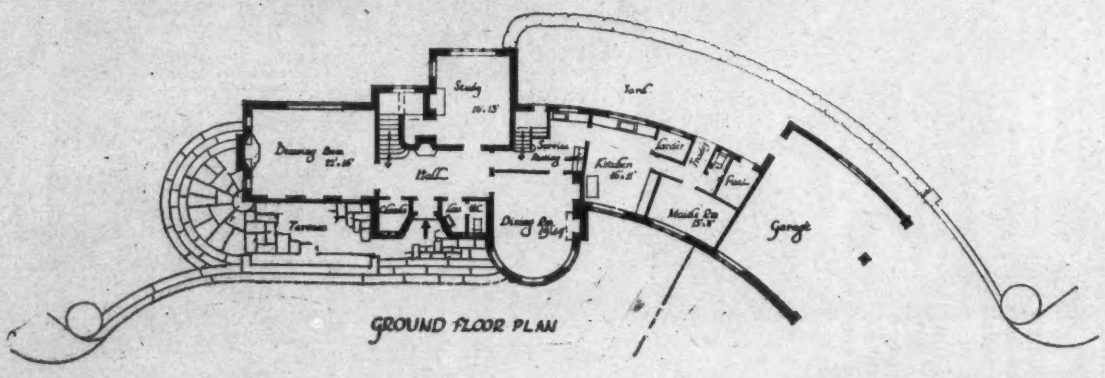
Having had the advantage of inspecting many of the slums of our great cities, and seeing the changes that have been effected by new building, I am inclined to think that in a few years' time we shall have abolished the slum and made decent housing possible for all the people of this country. The survey of overcrowding which was published in July of this year shows that 341,000 families were overcrowded, and badly overcrowded, according to the standard set up, and a further 380,000 families were only just above the official line. The important point to remember is that statistics show that over 43 per cent. of the overcrowded dwellings were one or two rooms, and only 2.7 per cent. had five rooms or more. The average overcrowded dwelling is therefore 37 per cent. smaller than the average uncrowded dwelling, although it is inhabited by a family 74 per cent. larger. Here comes in the opportunity of the builder who is helping forward the centrifugal movement of population from the centre of the city to the outskirts.

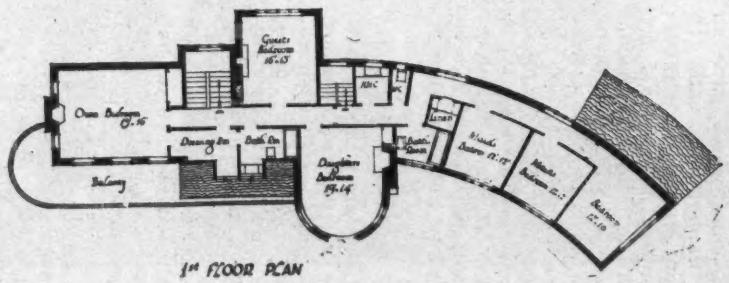
The housing that is going on is on a gigantic scale. London is pledged to the spending of some £35,000,000, and thousands of families are being housed either in improved flats or in cottages on the outskirts. Manchester and Liverpool, Birmingham and Glasgow, Sheffield and Leeds, have all embarked on large and important schemes of rehousing, and what is more important, they are rehousing their people at a cost which is within the power of the average working man to pay. I mention Leeds last of all, but it has almost the biggest problem, which is to rehouse 111,000 people on new estates, clearing away 30,000 back-to-back houses. Manchester is clearing 15,000 slum dwellings, as an important part of its programme is the creation of a new Garden Suburb at Wythenshawe. Already 6,000 houses have been erected out of the total of 26,000. This is perhaps the finest type of suburb in existence, and it is very much to the credit of those who have been responsible for its creation in the face of many difficulties.

Increase of Amenities.

The importance of the housing problem is evidenced by the fact that it employs 850,000 men, and it seems likely that there will be little unemployment in the building trades for at least another year, and quite possibly two years. In visiting these new estates and tenements in different parts of the country, I have been struck with the way in which convenience, comfort and health have taken the place of inconvenience, discomfort and lack of sanitation. I visited, for example, a family in a flat recently built, that had previously been housed, or shall I say overcrowded, in three rooms that had never been designed for family occupation. It was a part of a tenement that was ready to be pulled down. There was no proper sanitary accommodation, no bath, and the kitchen was a makeshift kitchen, so that it was almost impossible to do the necessary cooking. In place of this condition of things the new flat was provided with all the necessary equipment for a decent life. There were four rooms, and in three of them there were







A HOUSE NEAR BOGNOR.

MR. HUBERT LIDBETTER, F.R.I.B.A., Architect.

gas fires. There was a gas cooker, and each tap in the scullery had an arrangement by which the water was heated by an automatic gas heater. There was in addition a coke boiler which gave an ample supply of water for the bath. In every way the convenience of the householder was consulted, and I could not help comparing this with my own personal experience in a part of East London many years ago, where there were no private baths for some tens of thousands of people. That state of things is rapidly disappearing, and the building fraternity would not allow a house to be constructed unless every arrangement possible had been made for the supply of these amenities.

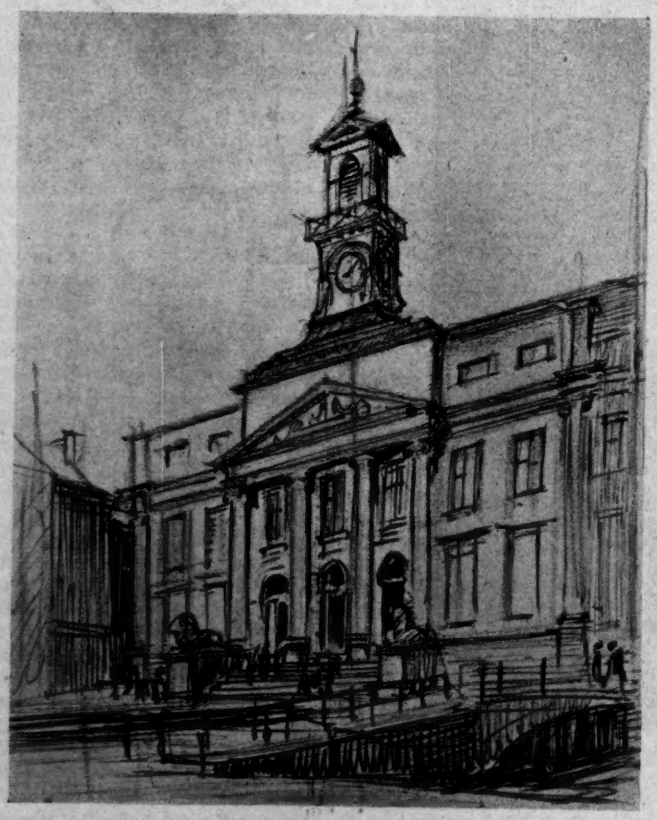
Gas and Electricity.

The question is constantly arising as to whether in these new houses, whether flats or cottages, electricity or gas should be supplied, and a good many municipalities supplying their own electricity have refused to allow gas to be installed. There ought to be no such discrimination. If people want electricity for all purposes they should be allowed to have it, but equally if they demand gas it should be supplied. If the gas undertaking belongs to the municipality there is, of course, no difficulty, but if, on the other hand, it belongs to a private company, the municipality may be tempted to say, "We refuse to allow a choice between the two methods of heating, lighting and cooking." Both in the case of electricity and gas it is possible to do away with expensive chimneys, although both need some ventilation. In the case of gas, gas flues are now generally constructed by the builder, and these can, of course, be used, if they are available, by the electric lighting companies. In any case, whatever difficulties there are can be and are being overcome by the builder, and presumably the question of convenience and economy are the two points that they have in mind and the average householder must consider. Buildings companies and private builders are both suggesting ways and means by which houses can be most satisfactorily warmed and lighted. Where, as is often the case, in many households there is only one open fireplace, stoves are recommended that have effected a great saving in the use of coal. Some of them are 30 to 40 per cent. more economical than the old stove of Victorian days. Many people have noted during recent winters the disappearances to a large extent of the old pea-soup fog in the big cities. There is still far too much smoke, but it has been diminished, and for this we must thank, not only the gas and electricity undertakings, but also the builders, who are constantly suggesting new ideas and trying to obviate the pollution of the air, which has been such a bane in the past, destructive of architecture and vegetation, and dangerous to health. No big city ought to cut off at least 50 per cent. of the ultra-violet rays of the sun.

With the help of the subsidy, houses are now being constructed on new estates in the provinces to let from 7s. a week, around London from 10s. and in London itself from about 12s. 6d. Since 1931, more than 1,000,000 houses have been built, and already 420,000 slum dwellers have been rehoused at the rate of 200,000 persons a year. It is clear that we do not need fresh housing legislation unless it is a removal of some of the restrictive by-laws which make it impossible for the builder to introduce fresh ideas and new economies. What is required is not new legislation, however, but determined steady progress in the work of slum clearance and the rehousing of the dispossessed inhabitants.

OUR USUAL FEATURES.

General News and Competition News will be found this week on page 123.



THE TOWN HALL, DORDRECHT.
From a drawing by PROFESSOR A. E. RICHARDSON, A.R.A.
(See page 56.)

CORRESPONDENCE

"Reigns and Styles."

SIR,—I have read with interest in the issue of *The Builder* of December 25 your article under the heading of "Reigns and Styles." Whilst I strongly endorse the sentiments you have so ably expressed in favour of tradition, I am of the opinion that Architecture is suffering to-day from something that goes deeper than your article suggests.

We have, unfortunately, little work in this country that can claim to be founded on tradition such as influenced the men of the Italian Renaissance.

Looking back fifty years at the designs of our public buildings in various parts of the country, with very few exceptions they all show the same restless and uncertain line of thought both in plan and design; but these were the fashion of the time in which they were produced, as are many that are being built to-day.

We are told by some architectural critics that tradition is not necessary to the modern architect, nor does he require to base his ideas upon it, yet I am certain that every great artist, be he architect, sculptor or painter, will concede that any real measure of success he may have achieved was due, in the main, to his careful and prolonged study of work that has gone before.

Anyone who cares to examine the drawings of Antonio Sangallo, Baldassare Peruzzi, San Michaeli of Verona, and others in the Uffizi Gallery in Florence, the best of which have been selected and reproduced by Alfonso Bartoli, will see how these men studied and reconstructed many of the Roman remains before attempting to design seriously themselves, and readily realise the value of study and research of the past if they inspect the actual work of these architects in Rome, Bologna, Sienna, Verona and other places.

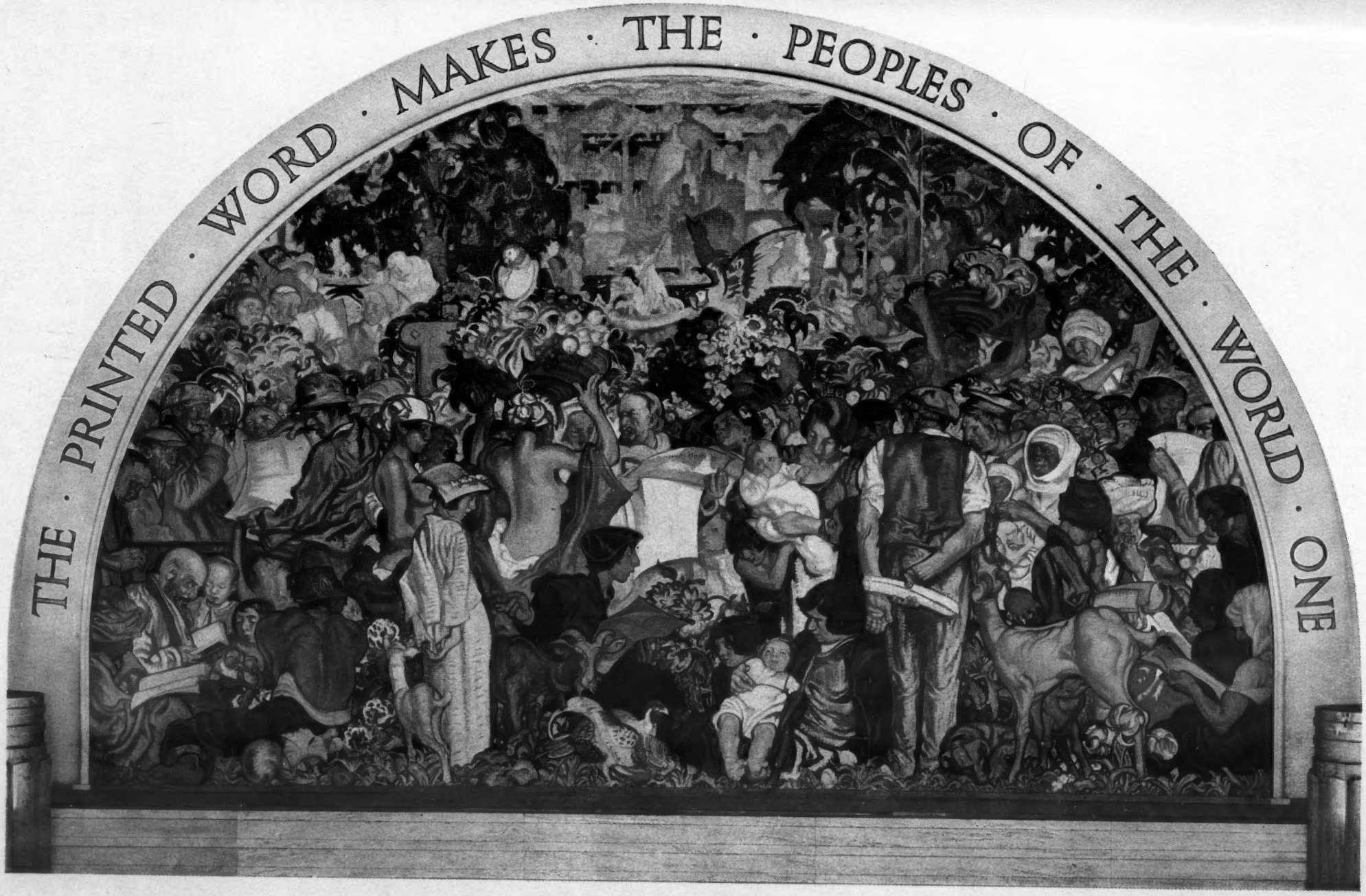
I would to-day urge every student who hopes in the future to produce good work to study that of the past, in the same way that every great scholar studies the classics. He will then appreciate the proper relation of void and solid and the refinement of detail. By this means his work, no matter how severe in outline and form, will show knowledge, and, in my humble opinion, therein lies the hope of the future.

EDWIN COOPER.

SIR,—Your leading article of December 25 deserves every praise. It is not only timely but extremely fair-minded. The broad views expressed will appeal to the intelligence of the public at large. There can be no argument regarding taste, but there should be agreement on matters which are national and not individual. All are familiar with the disastrous "Battle of the Styles" which left the doughty antagonists completely exhausted. True to tradition, the imitators of recent foreign buildings apparently have had recourse to the same tactics. It is not curious that the age of Dictators should encourage lesser fry.

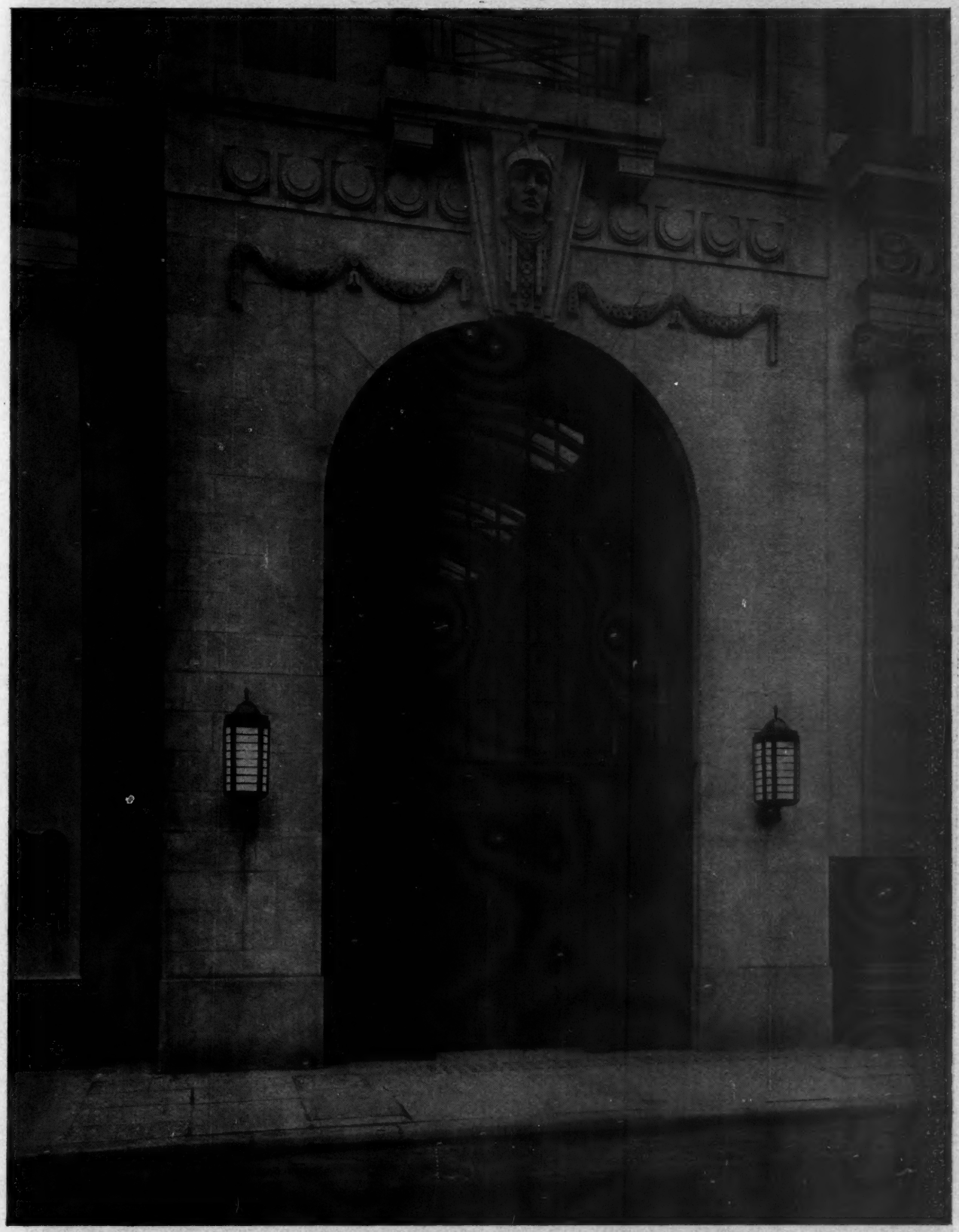
Apart from controversies which do not affect the main trend of events, it is correct to say that contemporary English architecture is far better than the art critic supposes. Much sensible work is being produced, but escapes attention. Regard is being paid once more to the use of brick and stone, and it is to be hoped that greater regard will be given to elegance and proportion. The surest test of fine architecture is the appeal it makes to the eye.

A. E. RICHARDSON.



PAINTED DECORATION IN TYMPANUM OF NEW ENTRANCE HALL, MESSRS. ODHAMS PRESS, LTD., LONG ACRE, W.C.

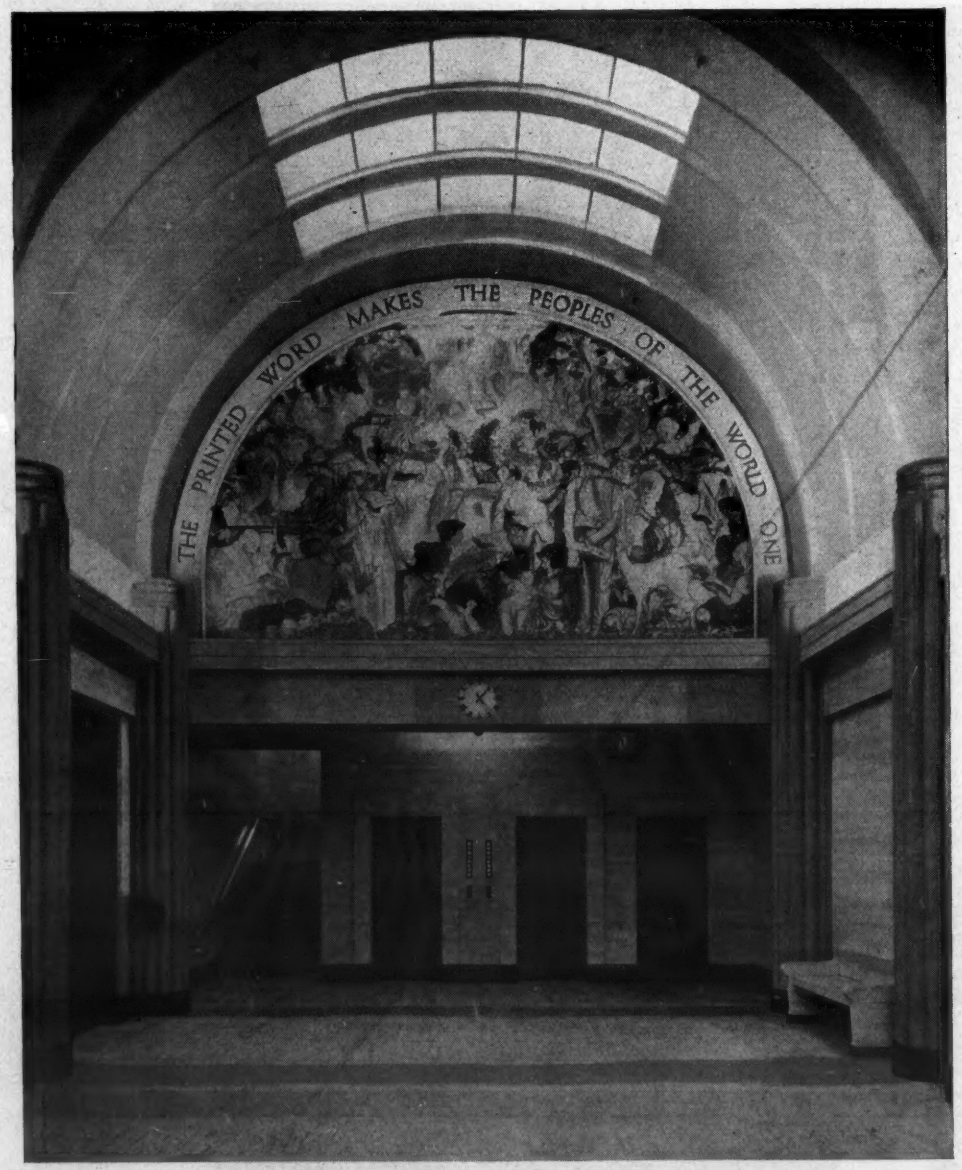
BY MR. FRANK BRANGWYN, R.A. MESSRS. YATES, COOK AND DARBYSHIRE, Architects.



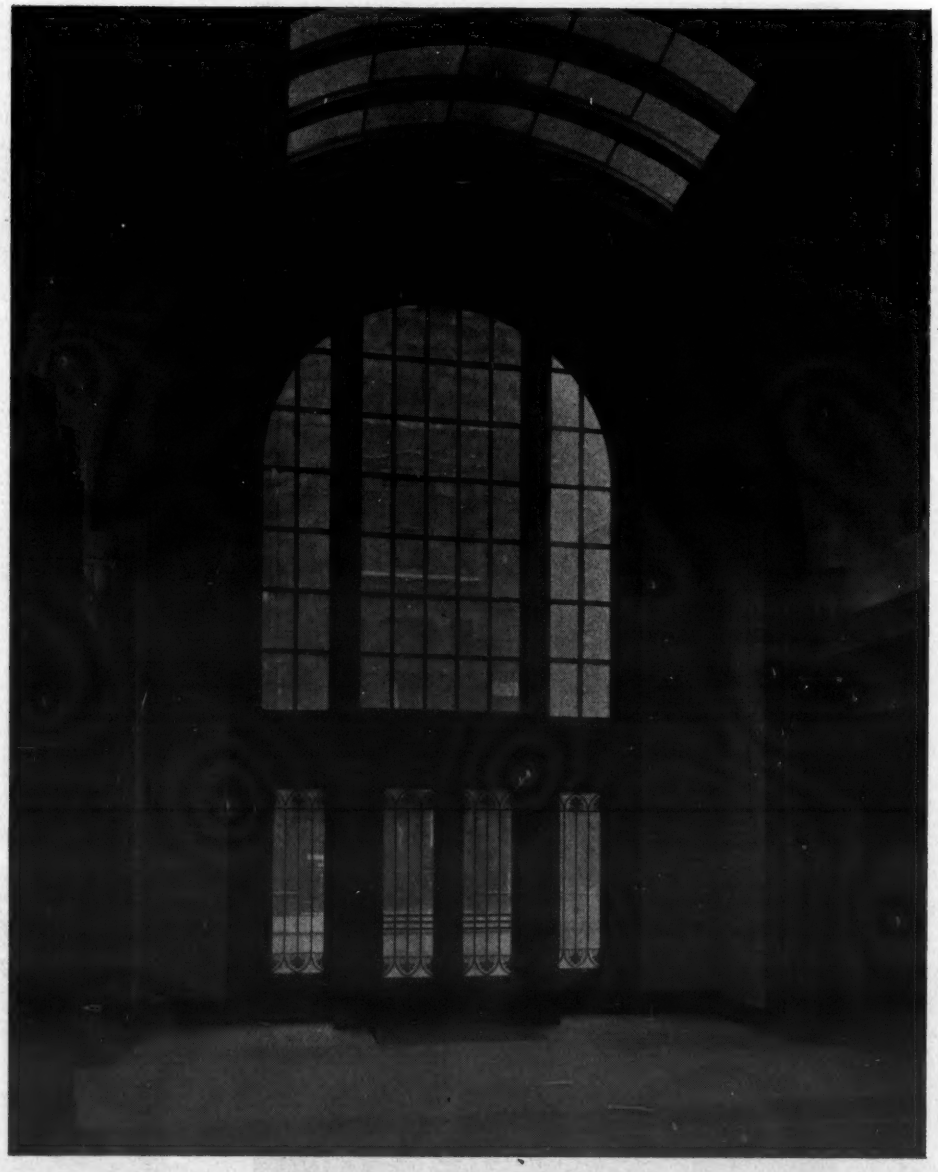
NEW ENTRANCE, MESSRS. ODHAMS PRESS LTD., LONG ACRE, W.C.

MESSRS. YATES, COOK AND DARBYSHIRE, Architects.

THE COUNTING HOUSE, MESSRS. ODHAMS PRESS LTD., LONG ACRE, W.C.
MESSRS. YATES, COOK AND DARBYSHIRE, Architects.



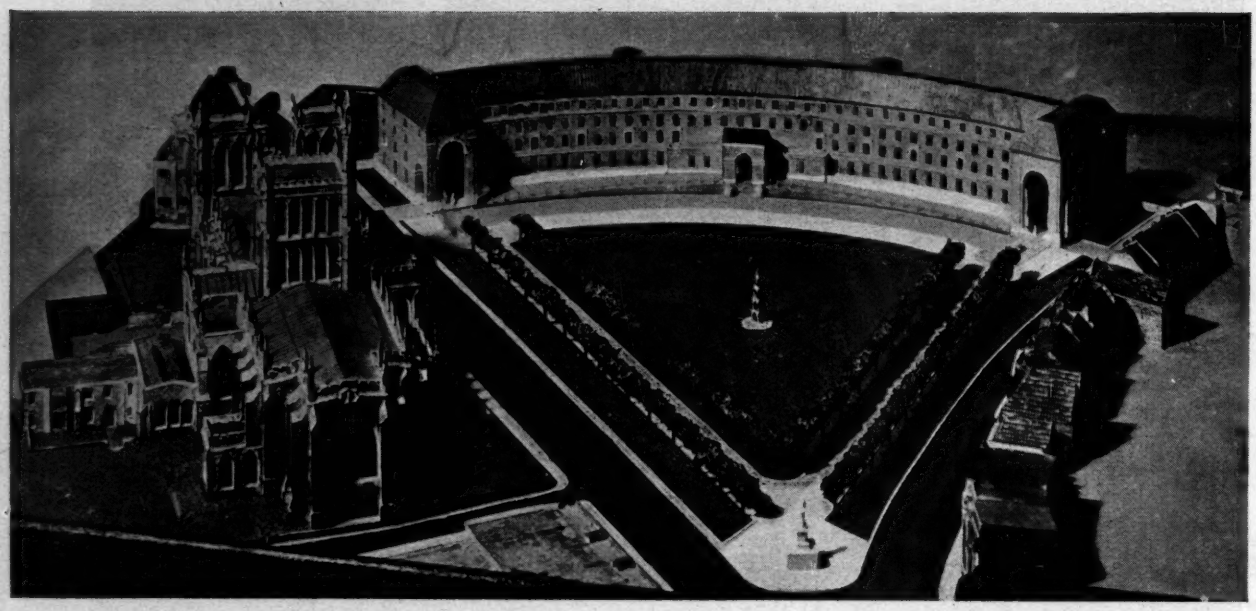
VIEW SHOWING DECORATIVE PAINTING BY MR. FRANK BRANGWYN, R.A.

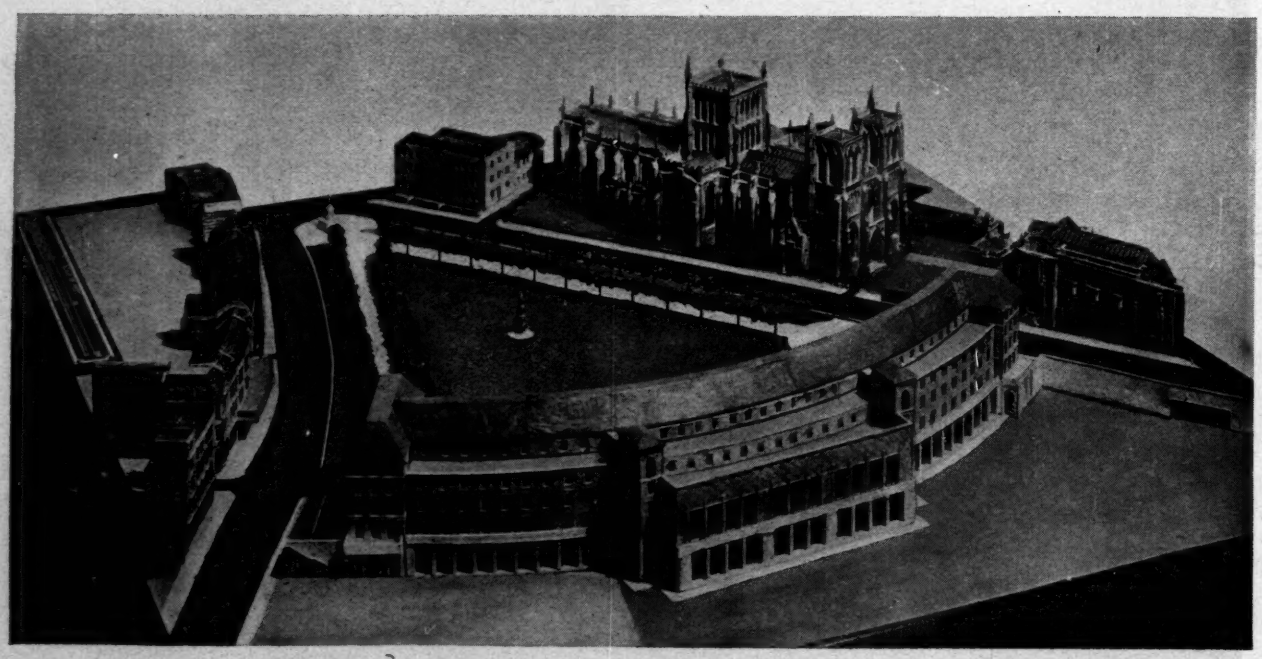


VIEW SHOWING MAIN ENTRANCE.

NEW ENTRANCE HALL, MESSRS. ODHAMS PRESS LTD., LONG ACRE, W.C.

MESSRS. YATES, COOK AND DARBYSHIRE, Architects.

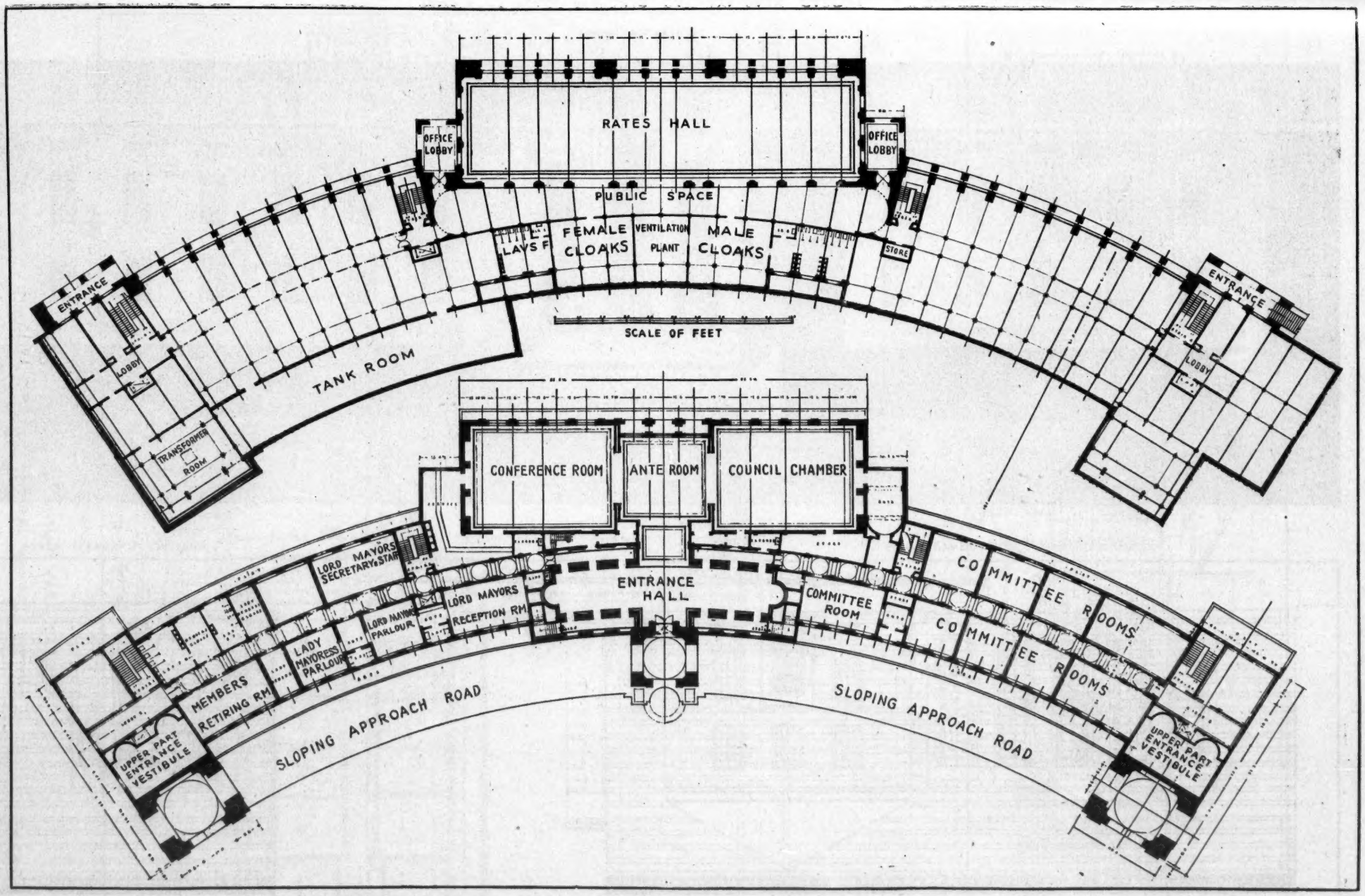




THREE VIEWS OF MODEL, SHOWING RELATION OF NEW BUILDINGS TO THE CATHEDRAL.

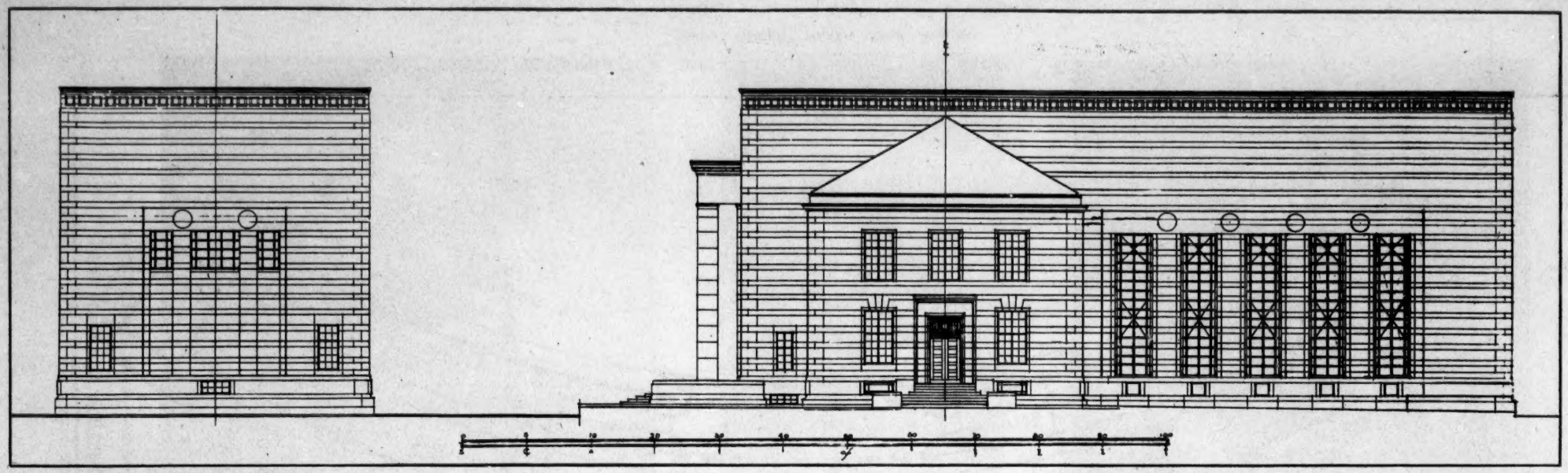
NEW MUNICIPAL BUILDINGS FOR THE CITY AND COUNTY OF BRISTOL.

MR. E. VINCENT HARRIS, A.R.A., Architect.



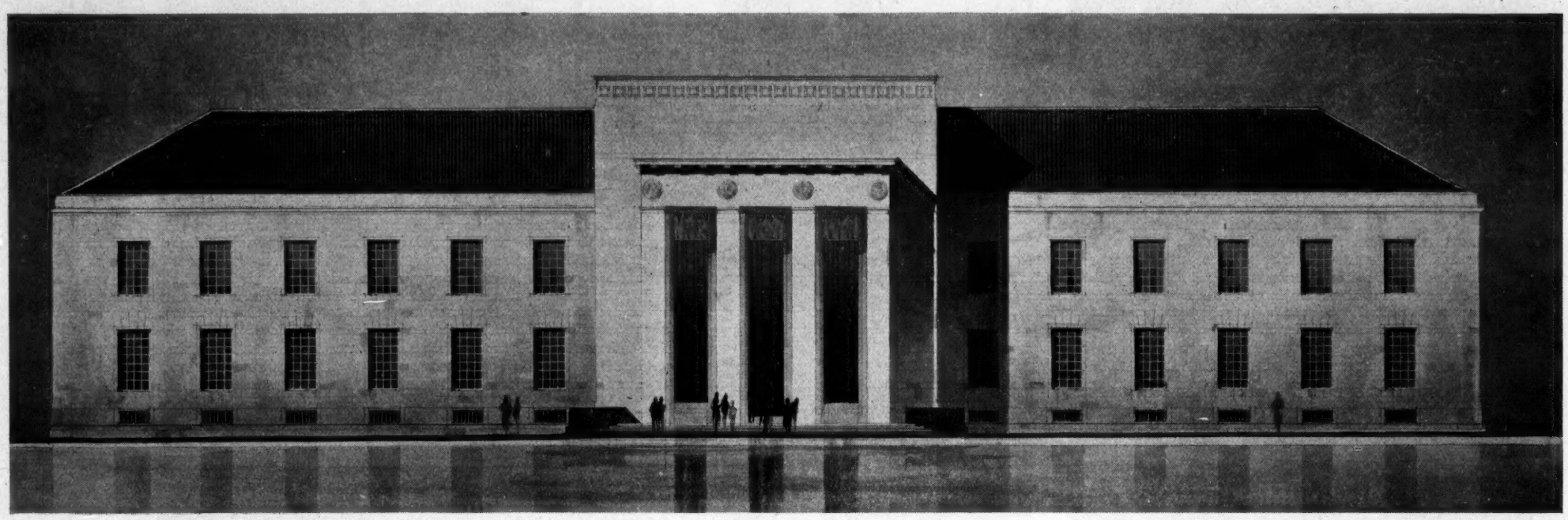
NEW MUNICIPAL BUILDINGS FOR THE CITY AND COUNTY OF BRISTOL: Ground- and First-Floor Plans.

MR. E. VINCENT HARRIS, A.R.A., Architect.



BACK ELEVATION OF TEMPLE.

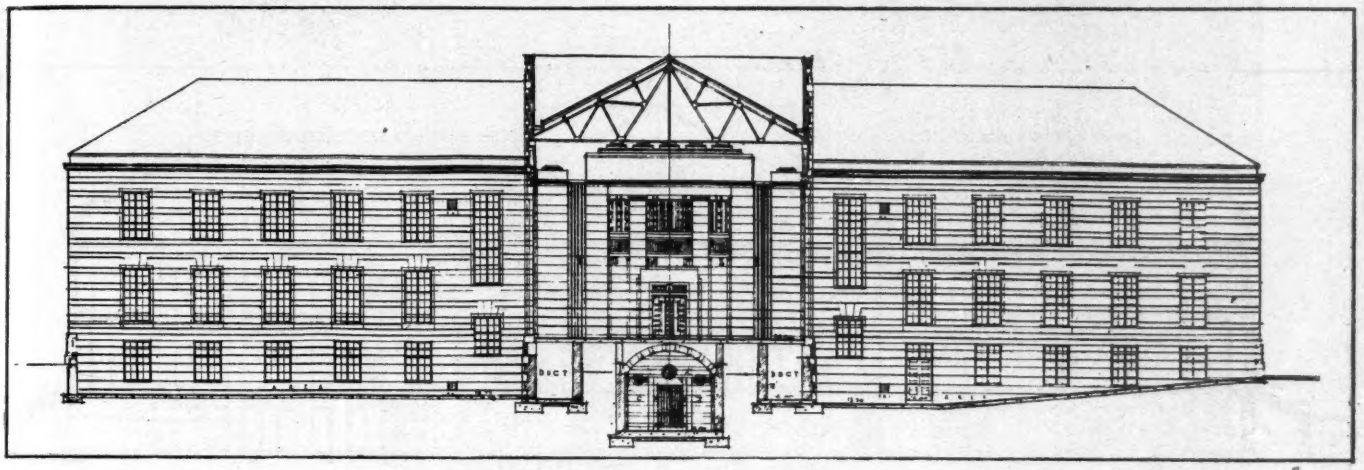
SIDE ELEVATION.



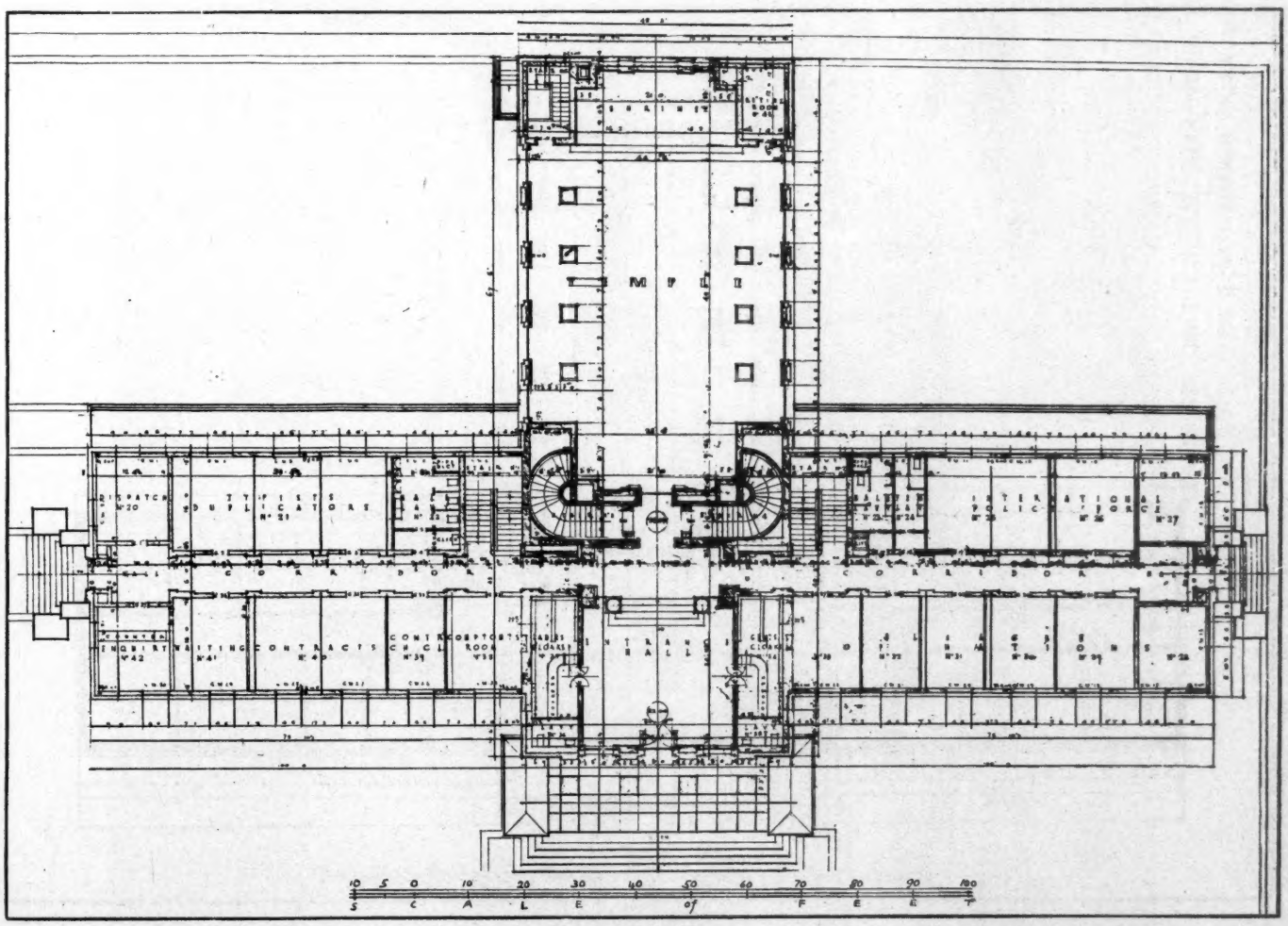
FRONT ELEVATION.

TEMPLE OF PEACE BUILDING, CATHAYS PARK, CARDIFF.

MR. PERCY THOMAS, P.R.I.B.A., Architect.



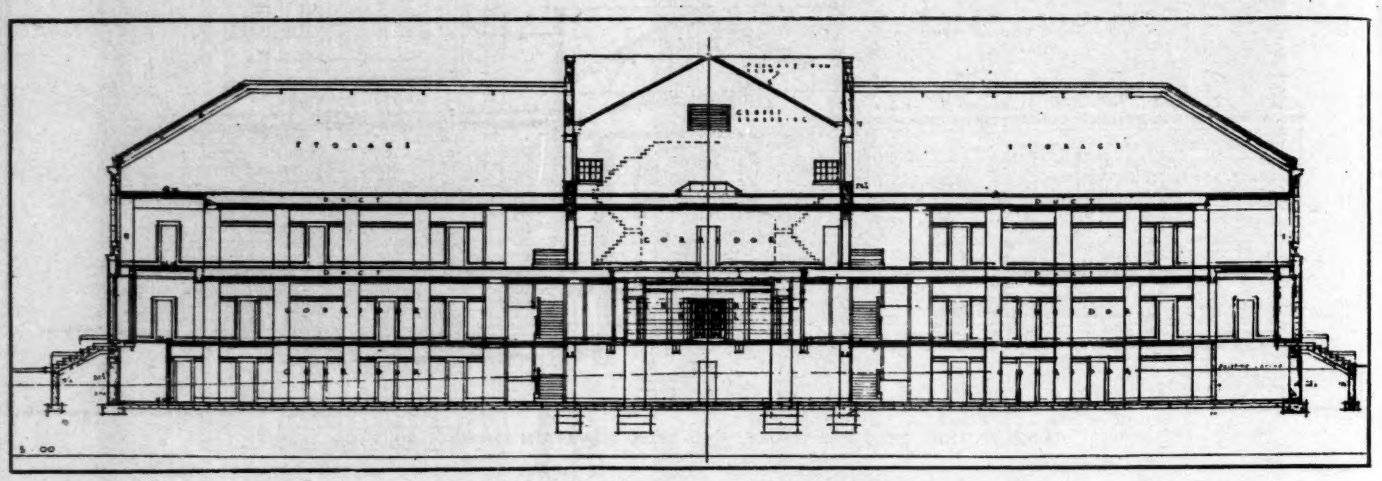
CROSS SECTION THROUGH TEMPLE, AND BACK ELEVATION OF MAIN BUILDING.



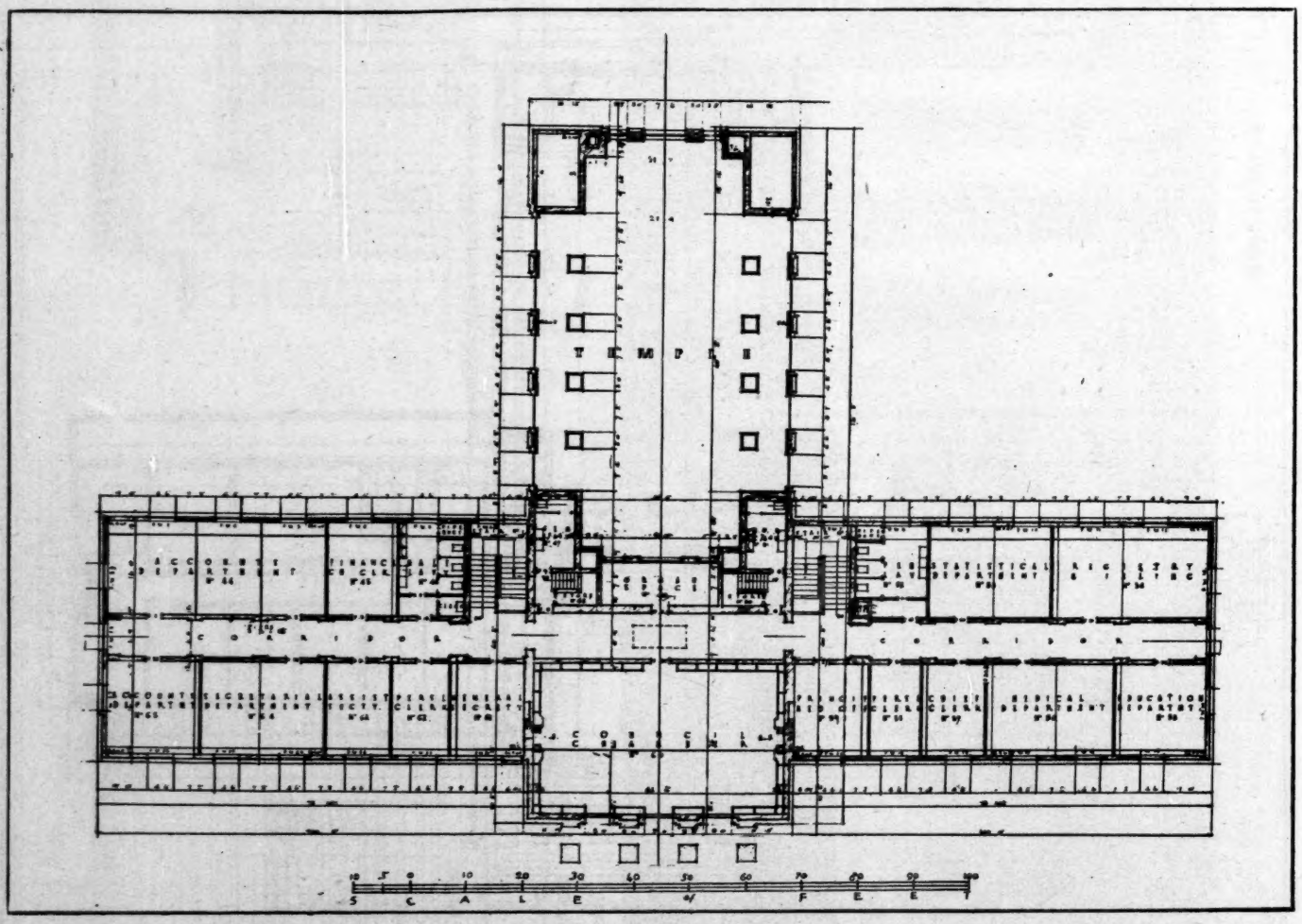
GROUND-FLOOR PLAN.

TEMPLE OF PEACE BUILDING, CATHAYS PARK, CARDIFF.

MR. PERCY THOMAS, P.R.I.B.A., Architect.



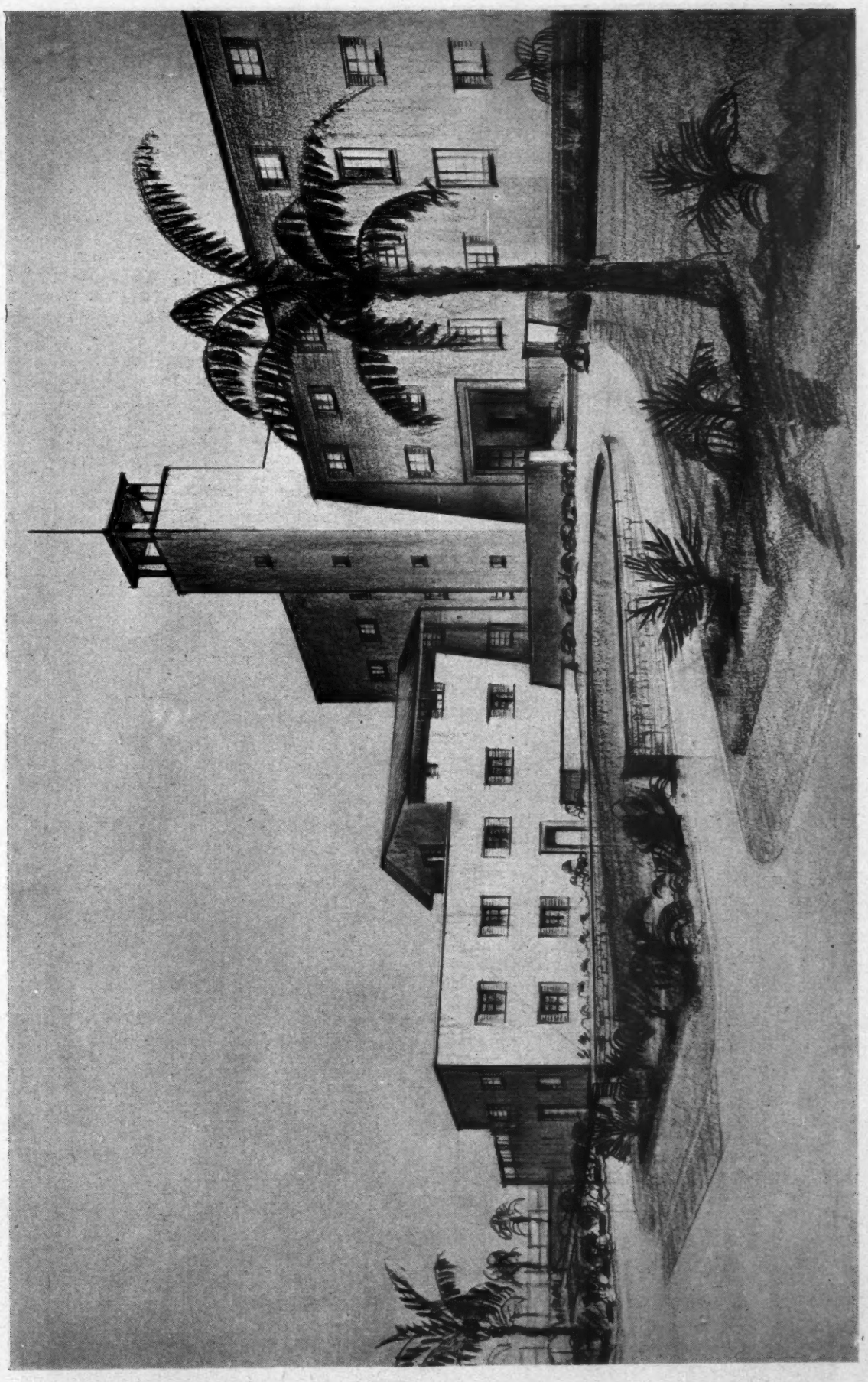
LONGITUDINAL SECTION THROUGH MAIN BUILDING.



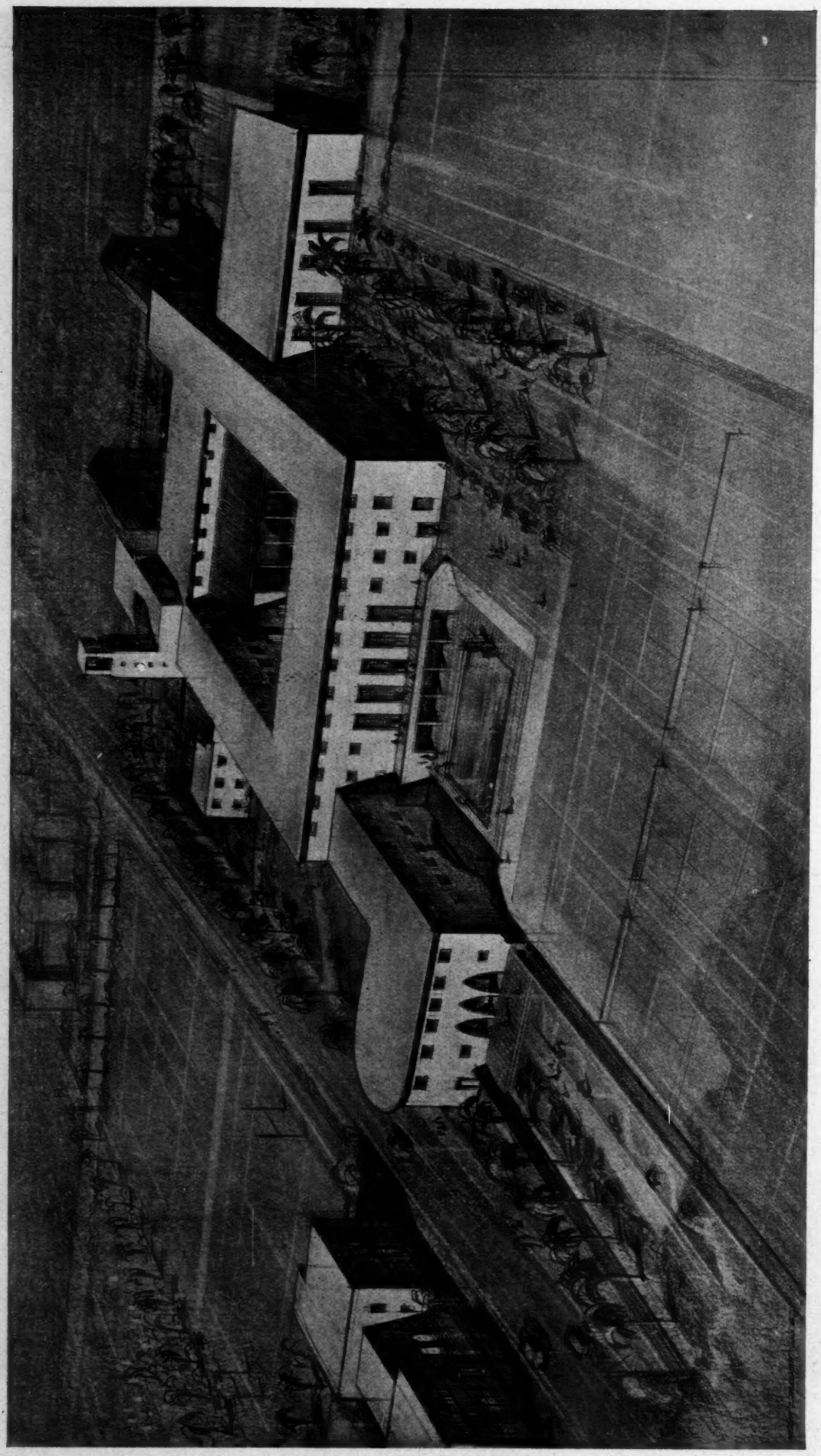
FIRST-FLOOR PLAN.

TEMPLE OF PEACE BUILDING, CATHAYS PARK, CARDIFF.

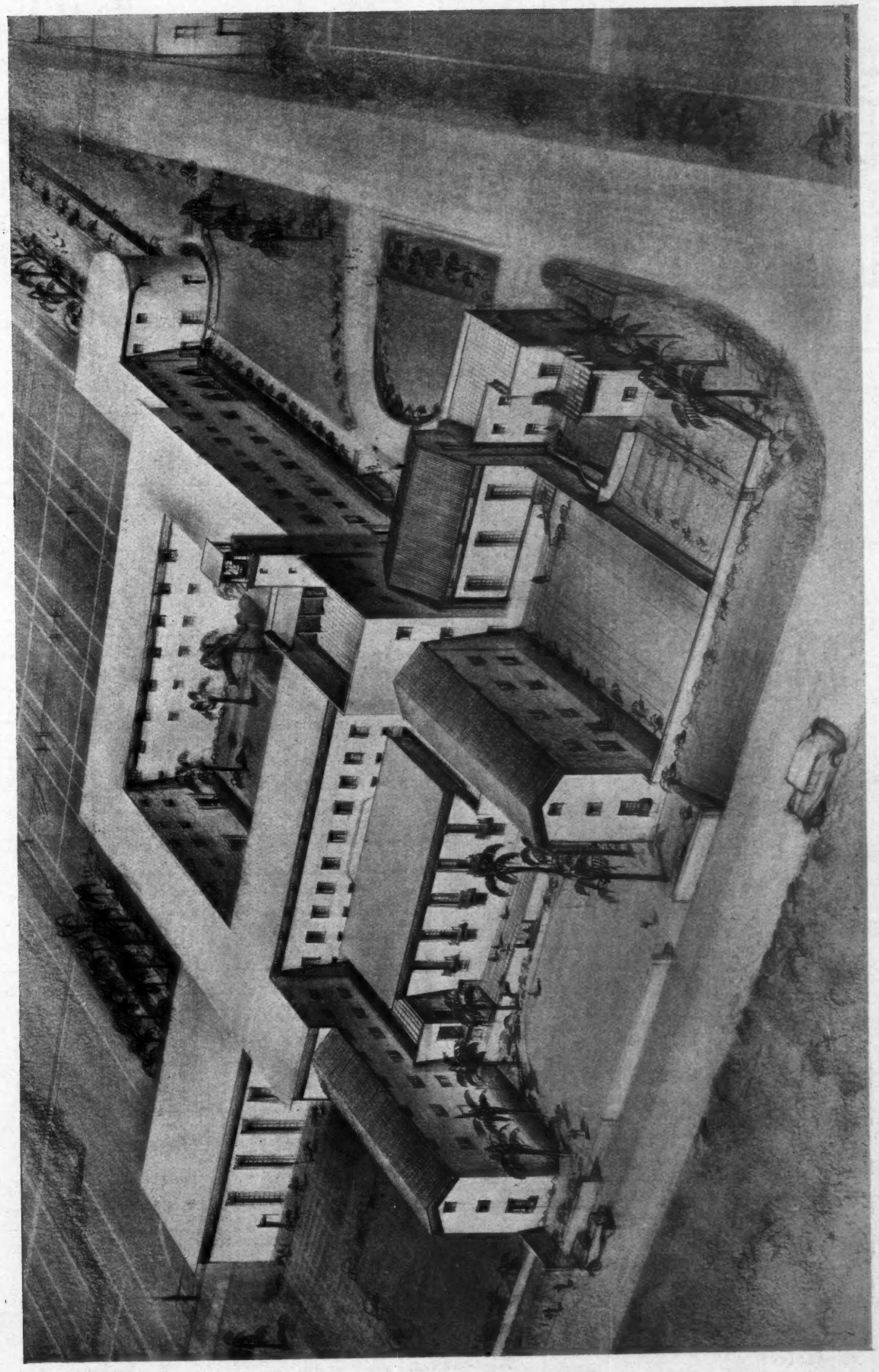
MR. PERCY THOMAS, P.R.I.B.A., Architect.



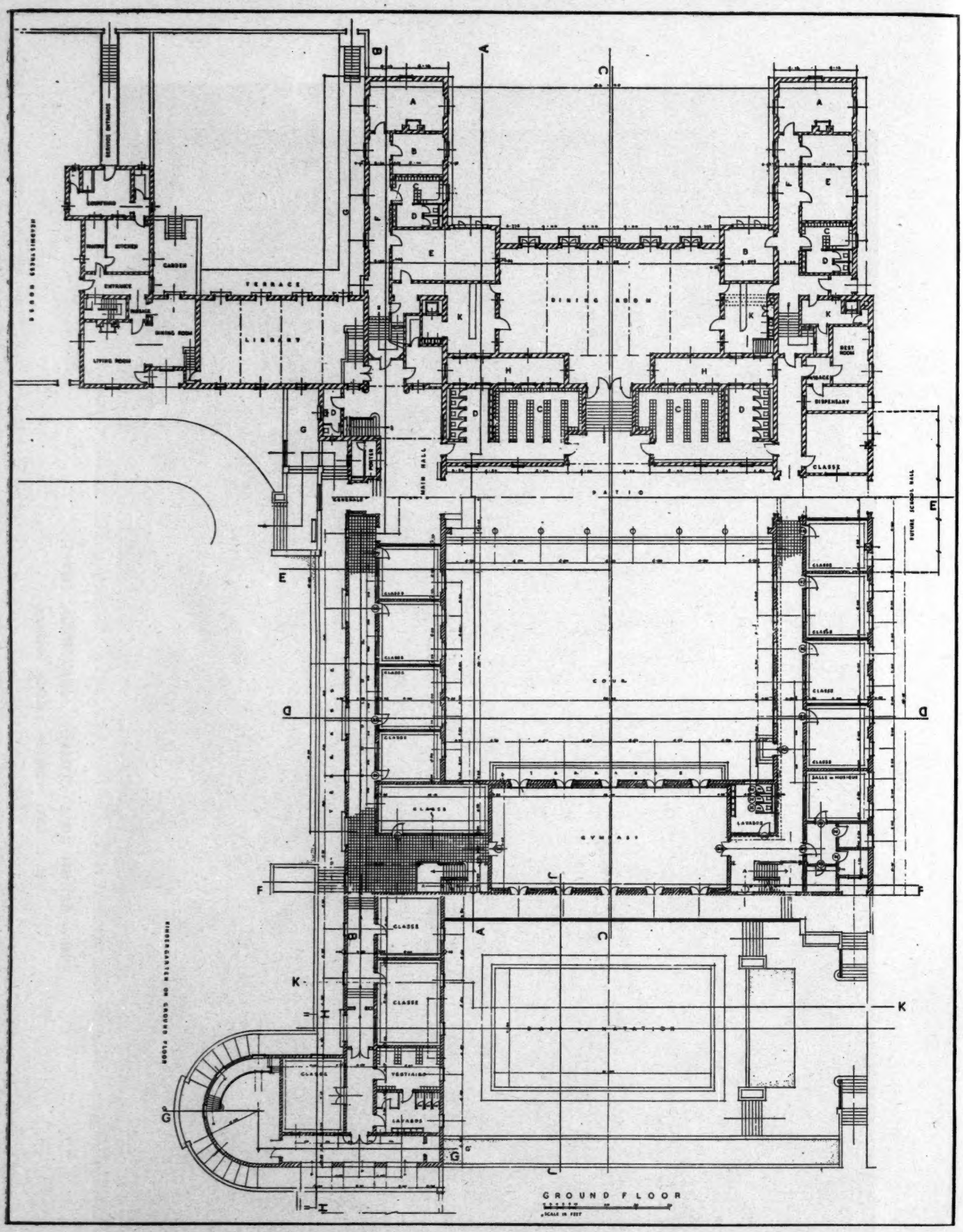
NEW BRITISH GIRLS' COLLEGE, ALEXANDRIA, EGYPT : Entrance Front.
MR. G. GREY WORNUM, F.R.I.B.A., Architect.



NEW BRITISH GIRLS' COLLEGE, ALEXANDRIA, EGYPT.
MR. G. GREY WORNUM, F.R.I.B.A., Architect.



NEW BRITISH GIRLS' COLLEGE, ALEXANDRIA, EGYPT,
MR. G. GREY WORNUM, F.R.I.B.A., Architect.

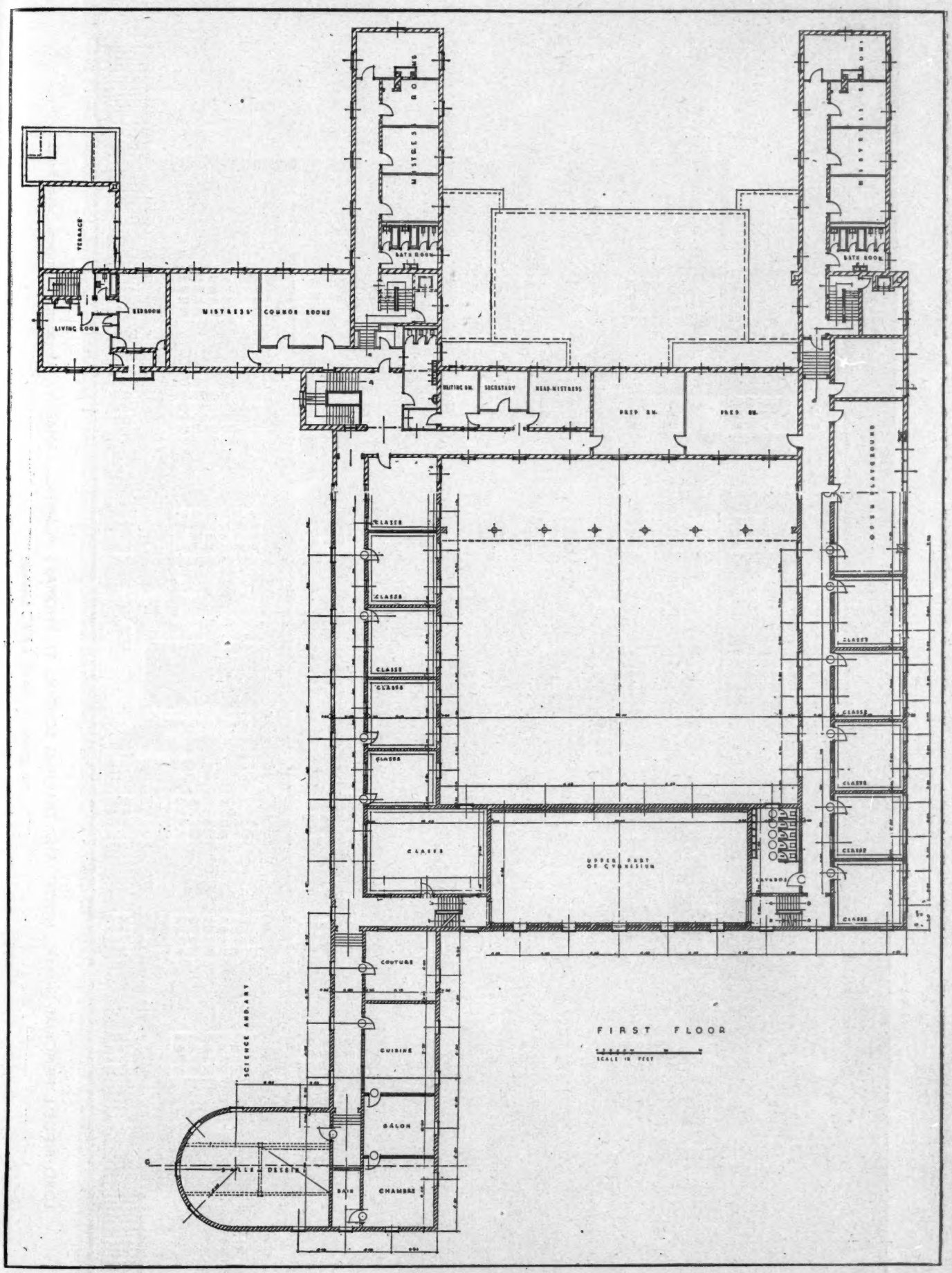


NEW BRITISH GIRLS' COLLEGE, ALEXANDRIA, EGYPT : Ground-Floor Plan.

MR. G. GREY WORNUM, F.R.I.B.A., Architect.

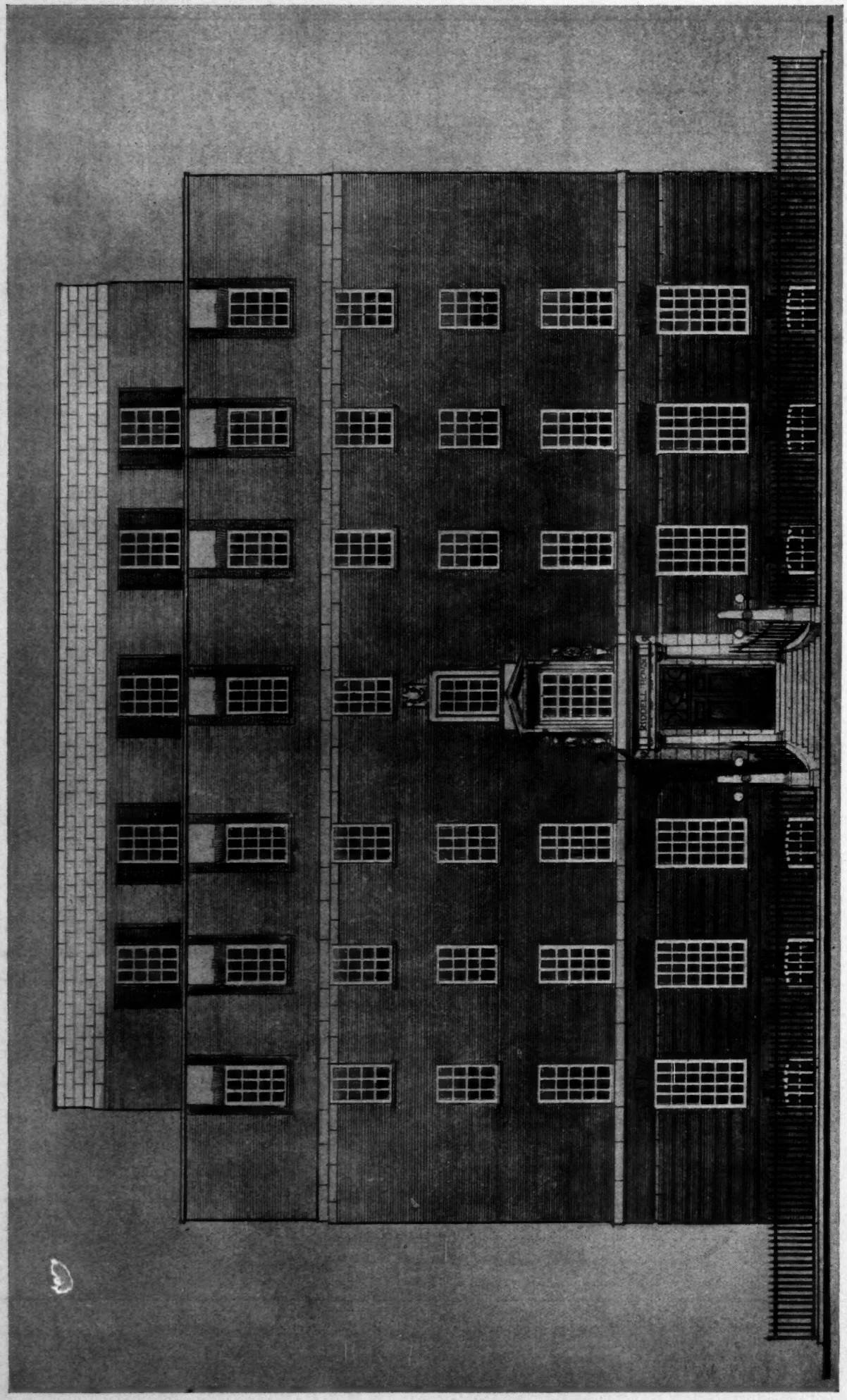
KEY

A.—COMMON ROOM
B.—PREFECTS.
C.—CLOAKS.
D.—LAVATORY.
E.—SITTING ROOM.
F.—CORRIDOR.
G.—TERRACE.
H.—COURTYARD.
K.—SERVICE.



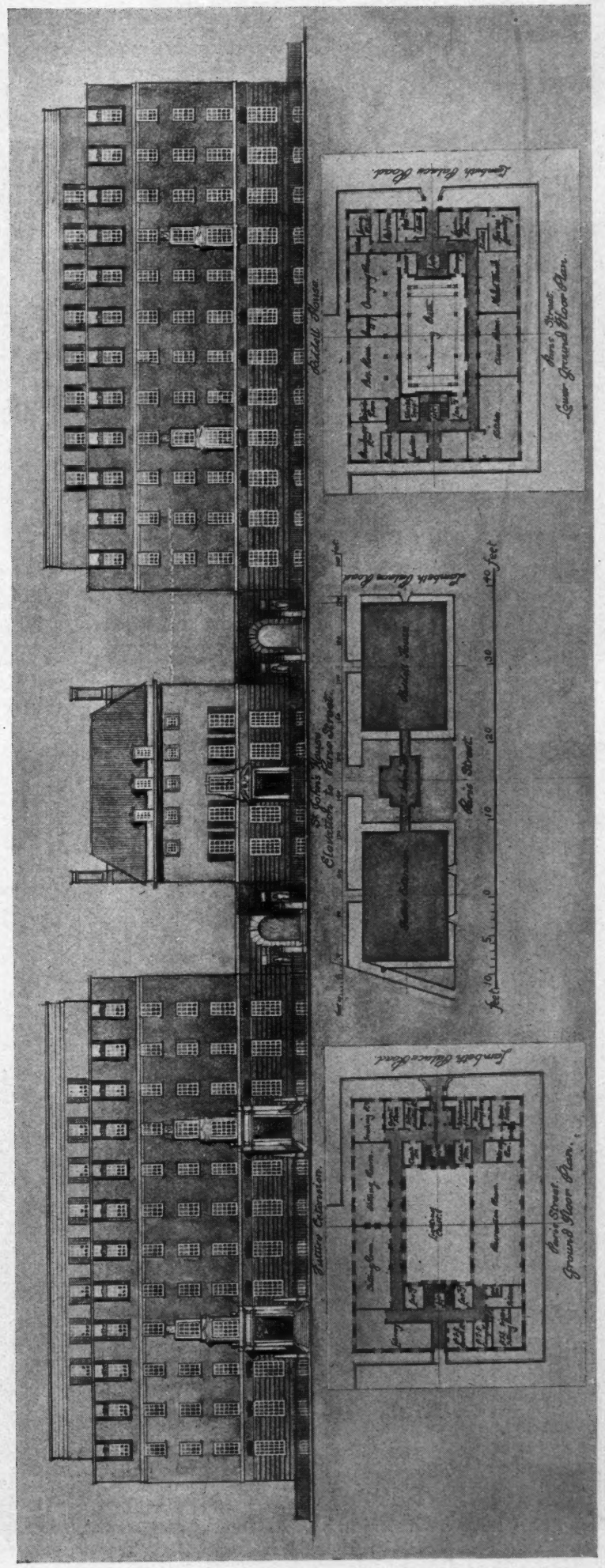
NEW BRITISH GIRLS' COLLEGE, ALEXANDRIA, EGYPT : First-Floor Plan.

MR. G. GREY WORNUM, F.R.I.B.A., Architect.

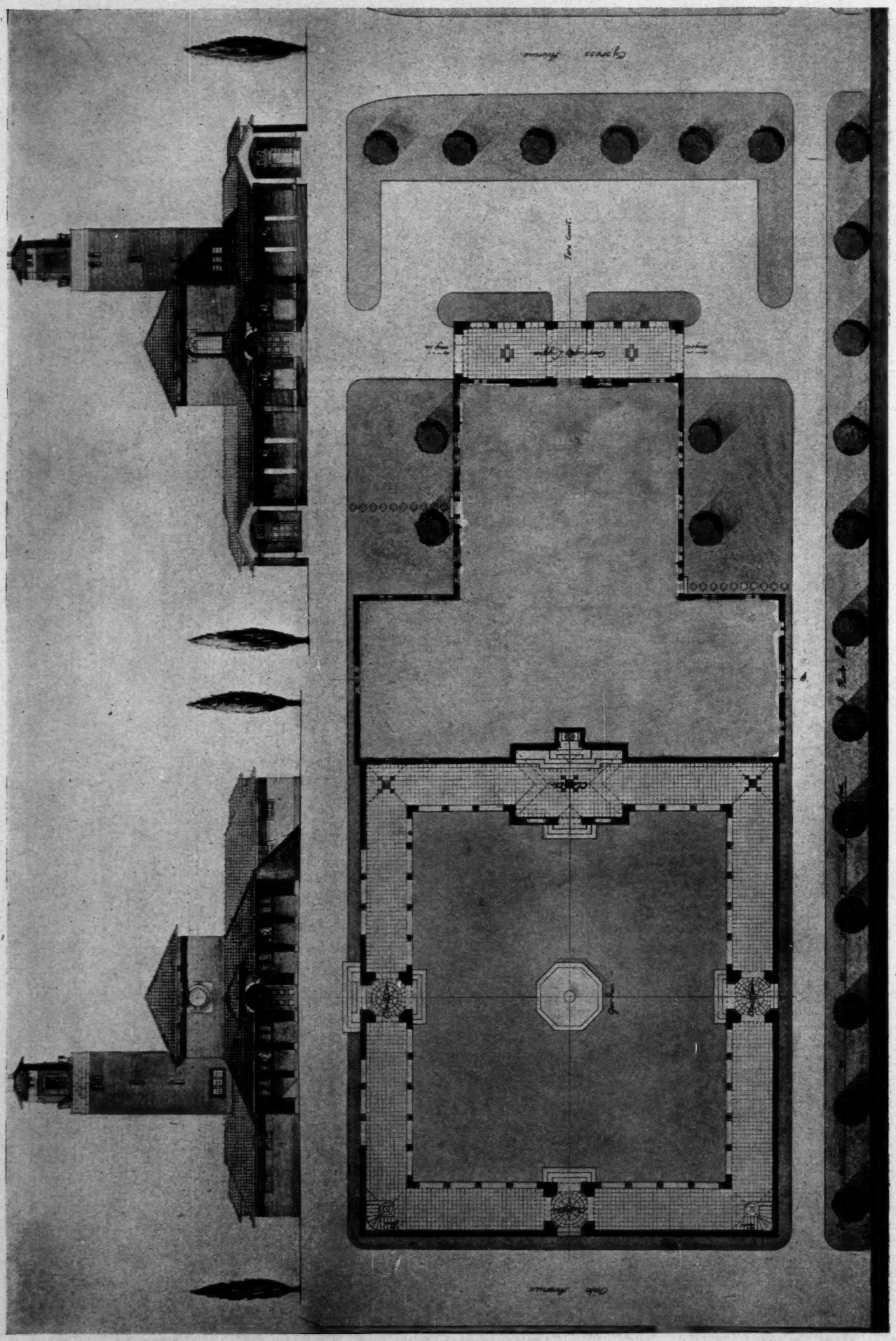


LORD RIDDELL MEMORIAL NURSES' HOSTEL AND TRAINING SCHOOL, ST. THOMAS'S HOSPITAL, LAMBETH : Elevation to Lambeth Palace Road.

SIR EDWIN COOPER, A.R.A., Architect.

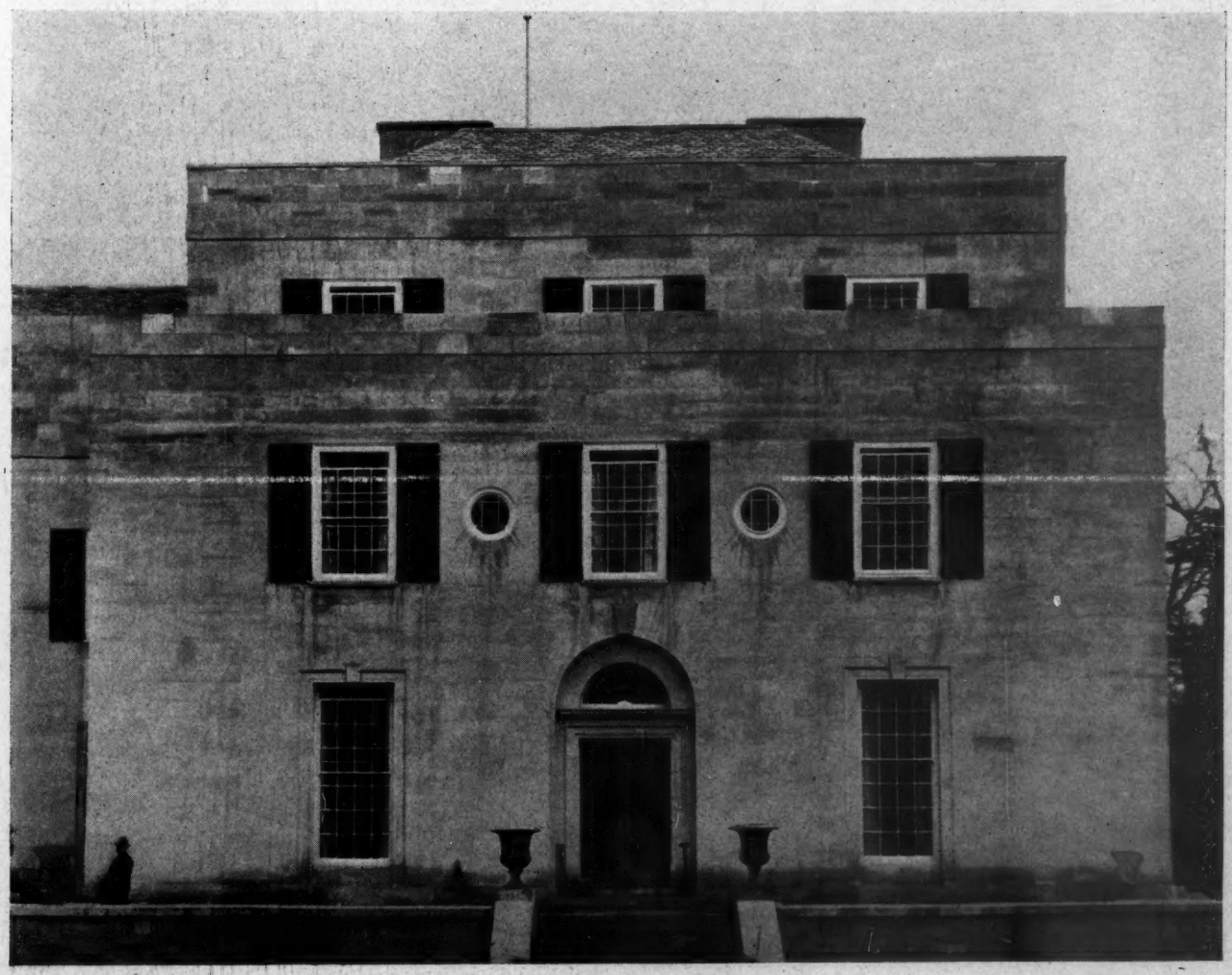


LORD RIDDELL MEMORIAL NURSES' HOSTEL AND TRAINING SCHOOL, ST. THOMAS'S HOSPITAL, LAMBETH.
SIR EDWIN COOPER, A.R.A., Architect.



CREMATORIUM FOR THE ST. MARYLEBONE BOROUGH COUNCIL, EAST FINCHLEY.
SIR EDWIN COOPER, A.R.A., Architect.

GARDEN ENTRANCE

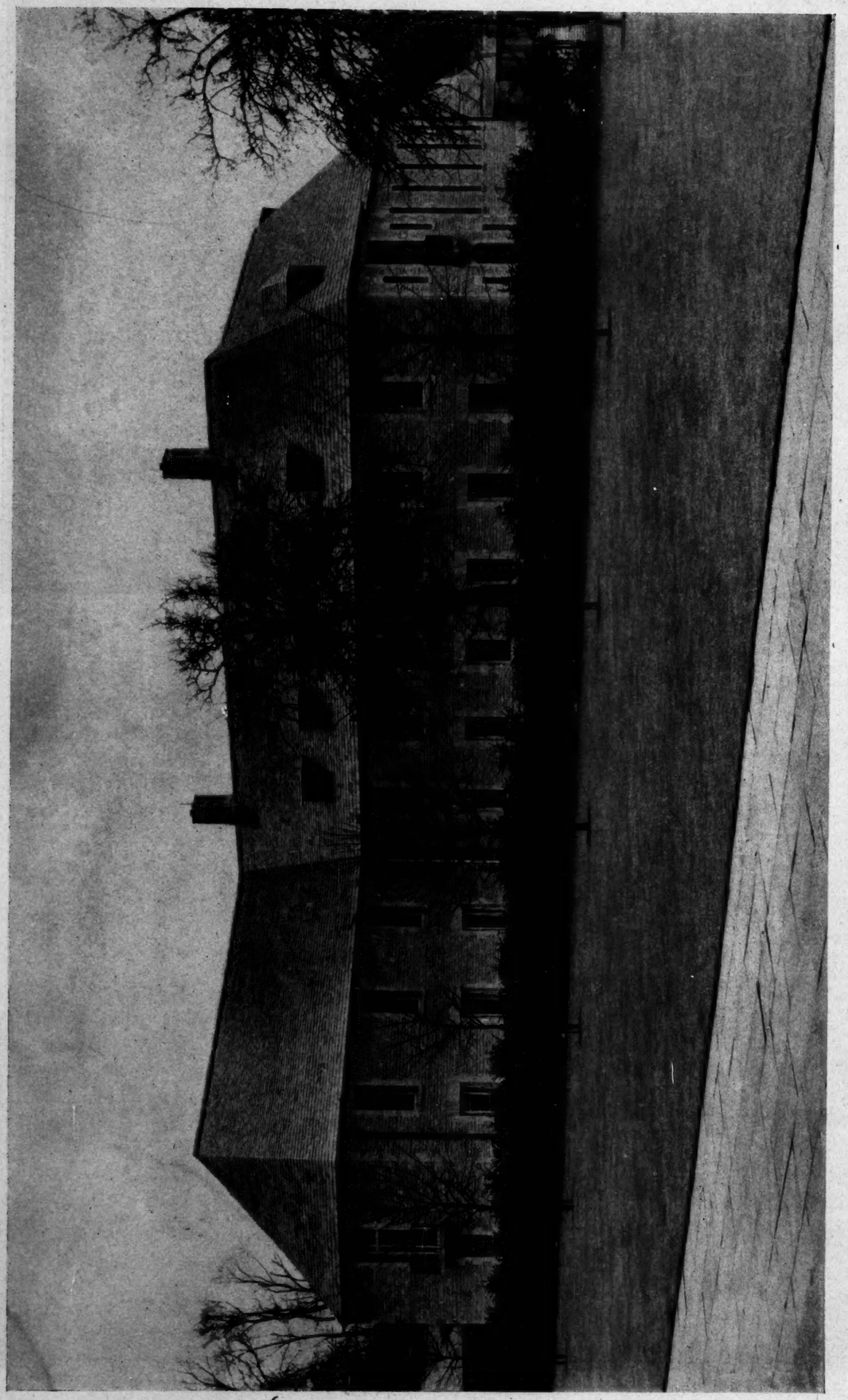


GARDEN ENTRANCE ELEVATION,

"GATTON PARK," SURREY.

SIR EDWIN COOPER, A.R.A., Architect.

SIR EDWIN COOPER, A.R.A., Architect.



NEW BUILDING FOR ST. CATHERINE'S SOCIETY, OXFORD.

MR. HUBERT WORTHINGTON, F.R.I.B.A. (MESSRS. THOS. WORTHINGTON AND SONS), Architect.

VIEW IN COURTYARD.

VIEW SHOWING STAIRCASE FEATURE.

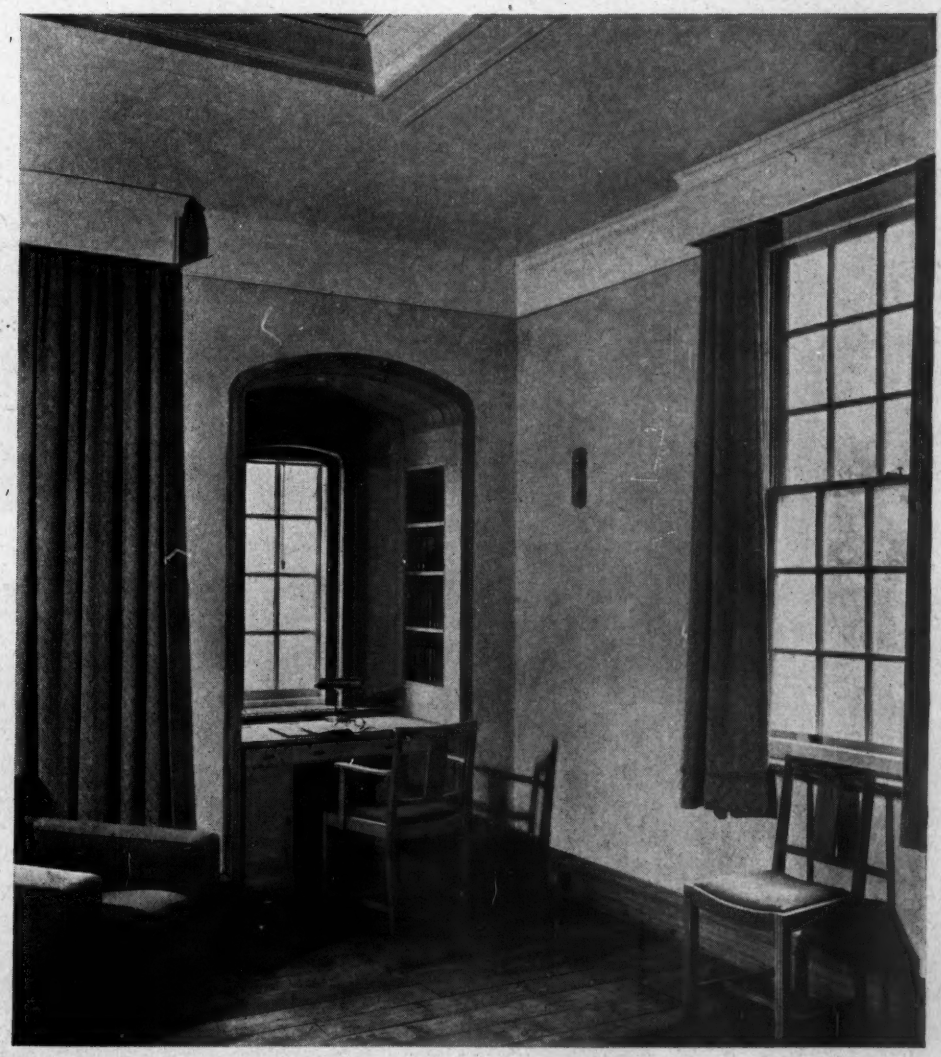
NEW BUILDING FOR ST. CATHERINE'S SOCIETY, OXFORD.

MR. HUBERT WORTHINGTON, F.R.I.B.A. (MESSRS. THOS, WORTHINGTON AND SONS), Architect.

NEW BUILDI G FOR ST. CATHERINE'S SOCIETY, OXFORD : The Dining Hall.

MR. HUBERT WORTHINGTON, F.R.I.B.A. (MESSRS. THOS. WORTHINGTON AND SONS), Architect.

SENIOR COMMON ROOM (FIRST FLOOR).

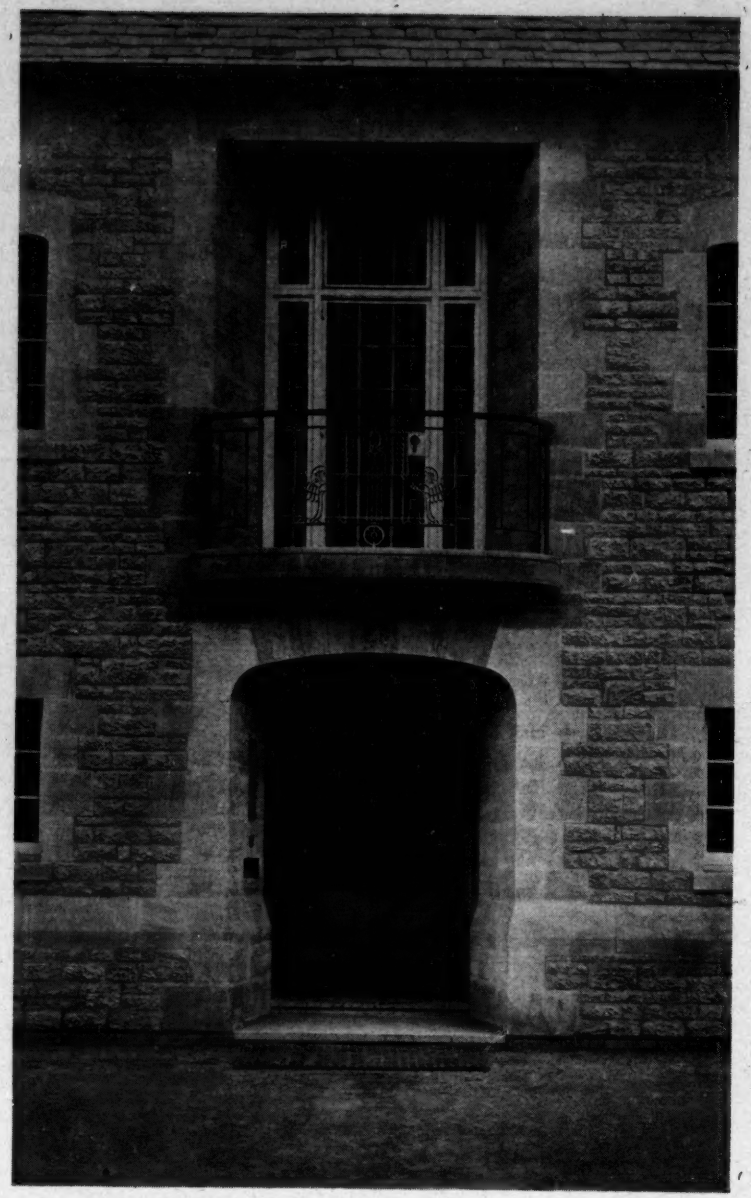


WRITING RECESS IN SENIOR COMMON ROOM.

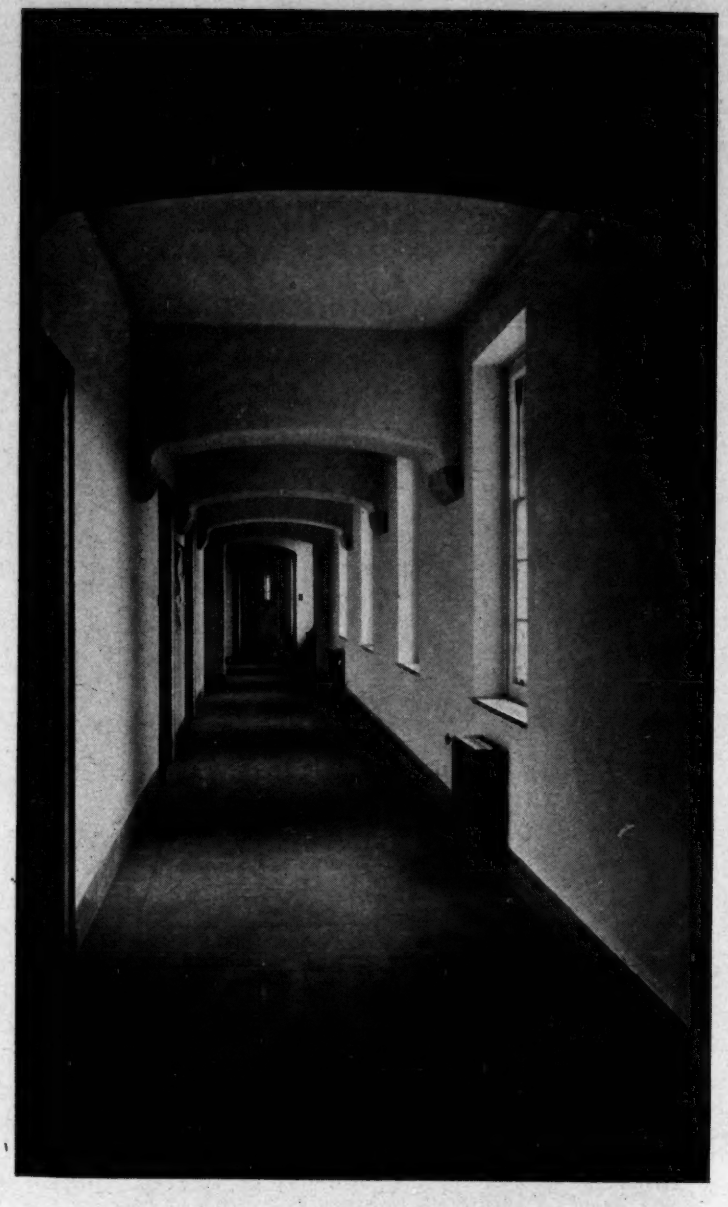
NEW BUILDING FOR ST. CATHERINE'S SOCIETY, OXFORD.

MR. HUBERT WORTHINGTON, F.R.I.B.A. (MESSRS. THOS. WORTHINGTON AND SONS), Architect.

THE CIRCULAR STAIRCASE TO LIBRARY.



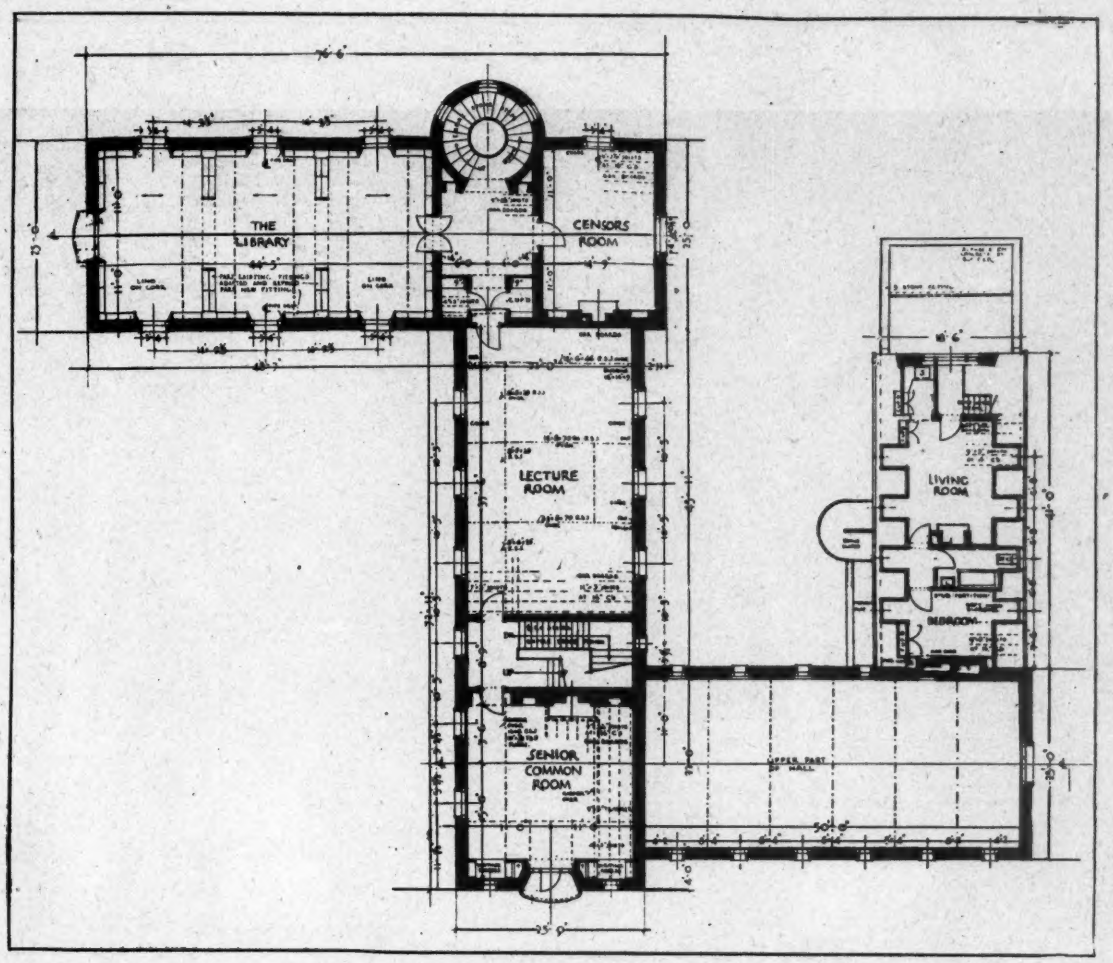
DETAIL OF PRINCIPAL ENTRANCE.



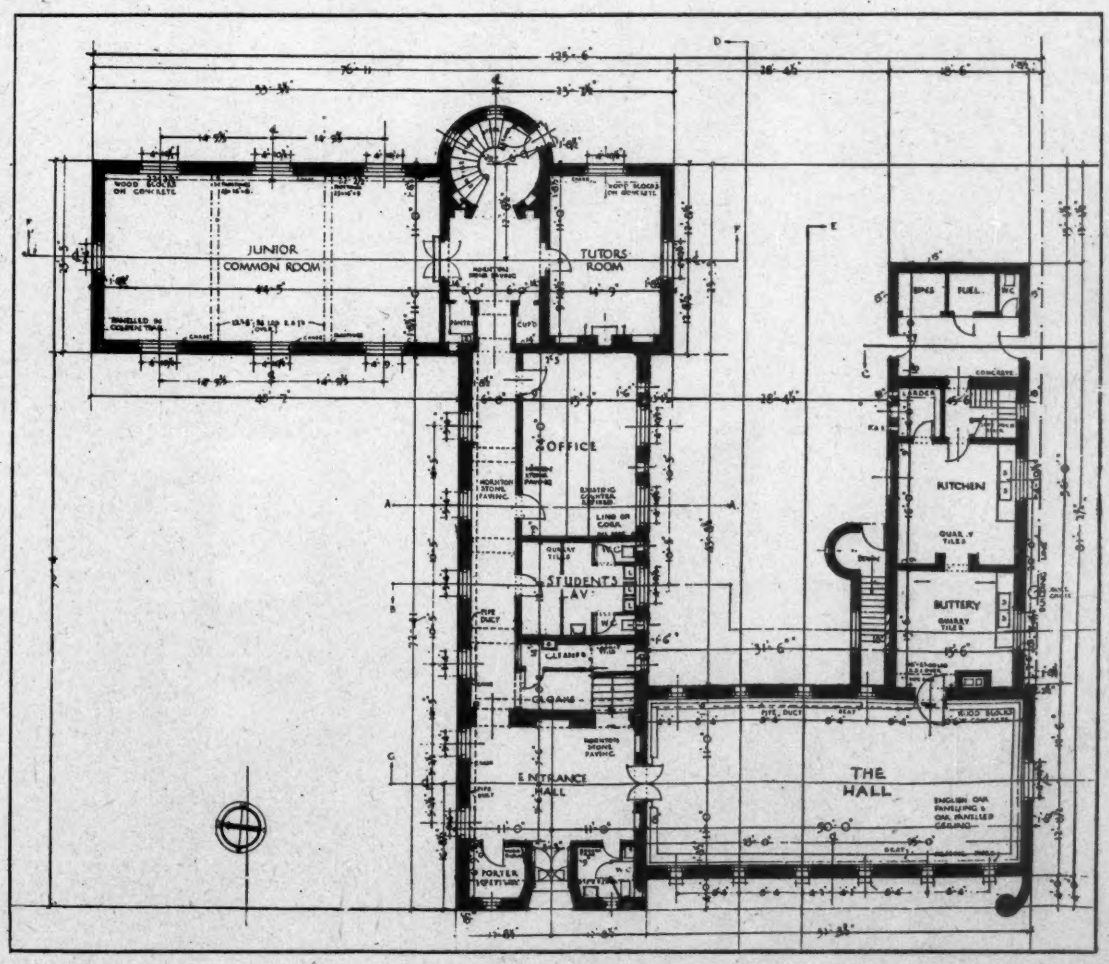
CORRIDOR, LOOKING TOWARDS ENTRANCE HALL (GROUND FLOOR).

NEW BUILDING FOR ST. CATHERINE'S SOCIETY, OXFORD.

MR. HUBERT WORTHINGTON, F.R.I.B.A. (MESSRS. THOS. WORTHINGTON AND SONS), Architect.



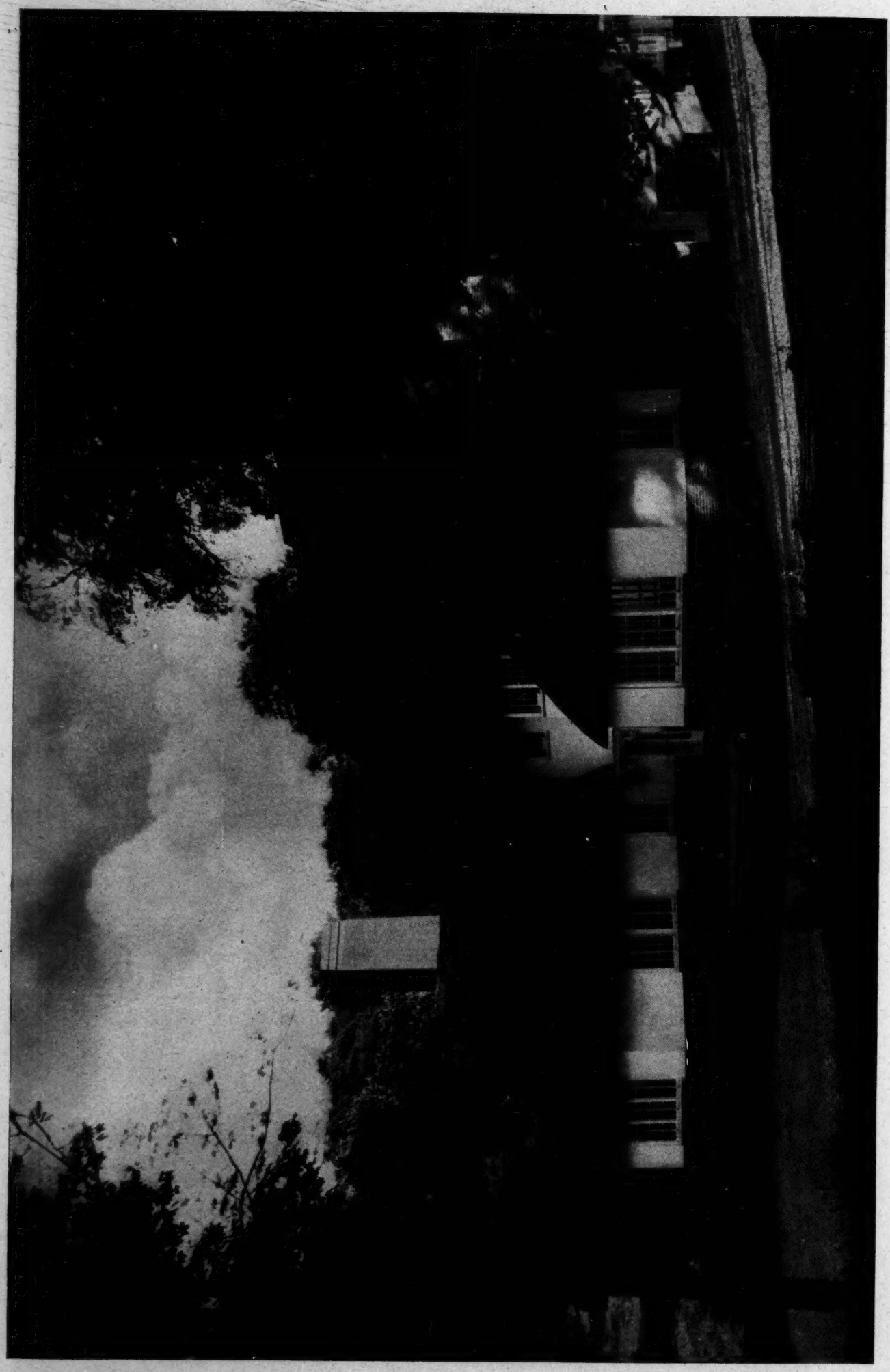
FIRST-FLOOR PLAN.



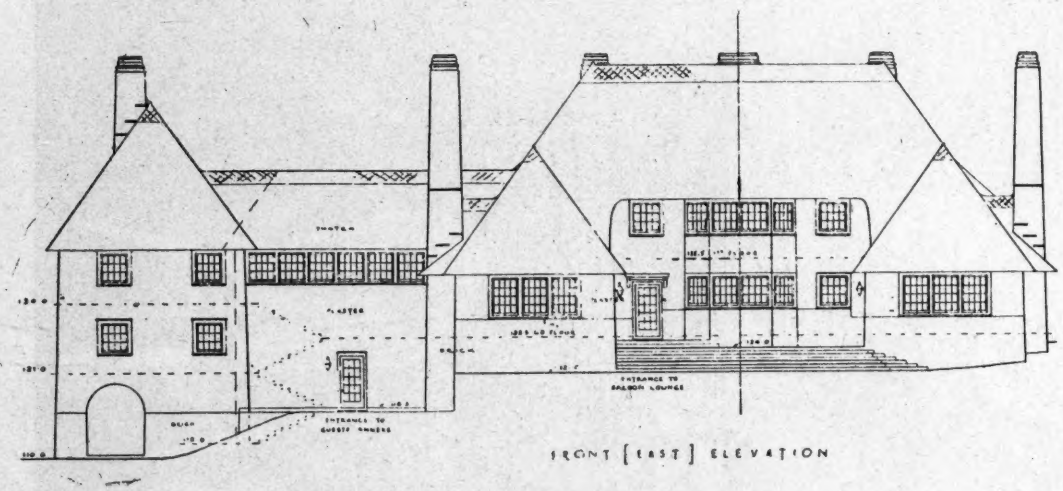
GROUND-FLOOR PLAN.

NEW BUILDING FOR ST. CATHERINE'S SOCIETY, OXFORD.

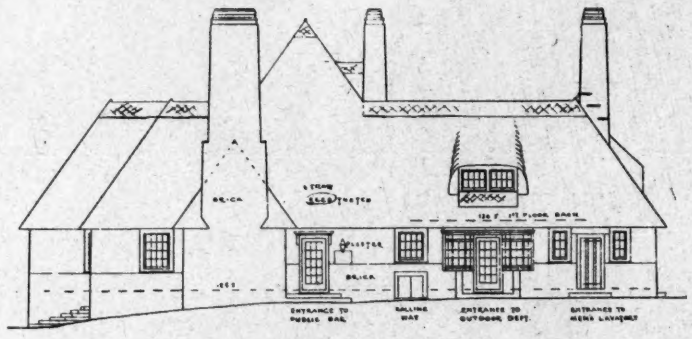
MR. HUBERT WORTHINGTON, F.R.I.B.A. (MESSRS. THOS. WORTHINGTON AND SONS), Architect.



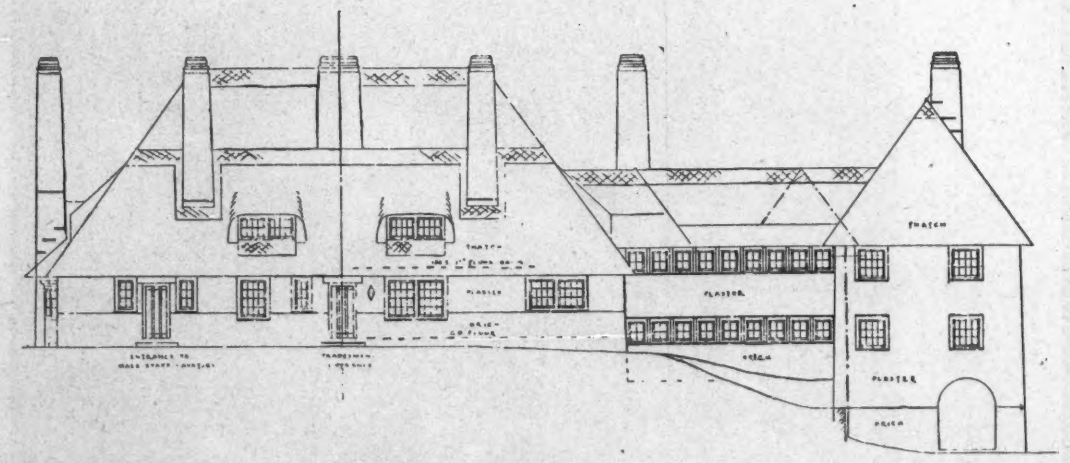
THE DRUM INN, COCKINGTON, SOUTH DEVON.
SIR EDWIN LUTYENS, R.A., P.I.A.A.S., Architect.



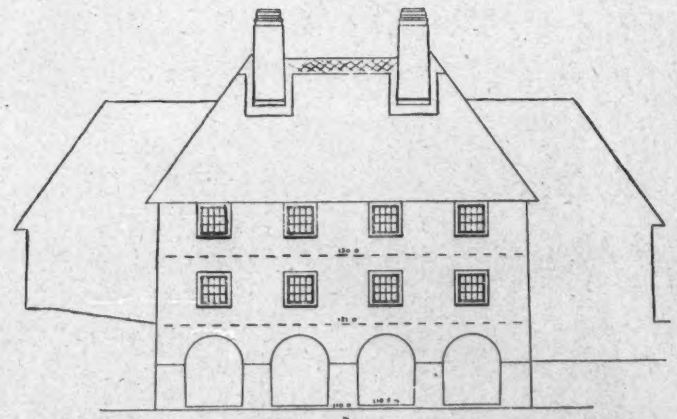
FRONT [EAST] ELEVATION



NORTH ELEVATION



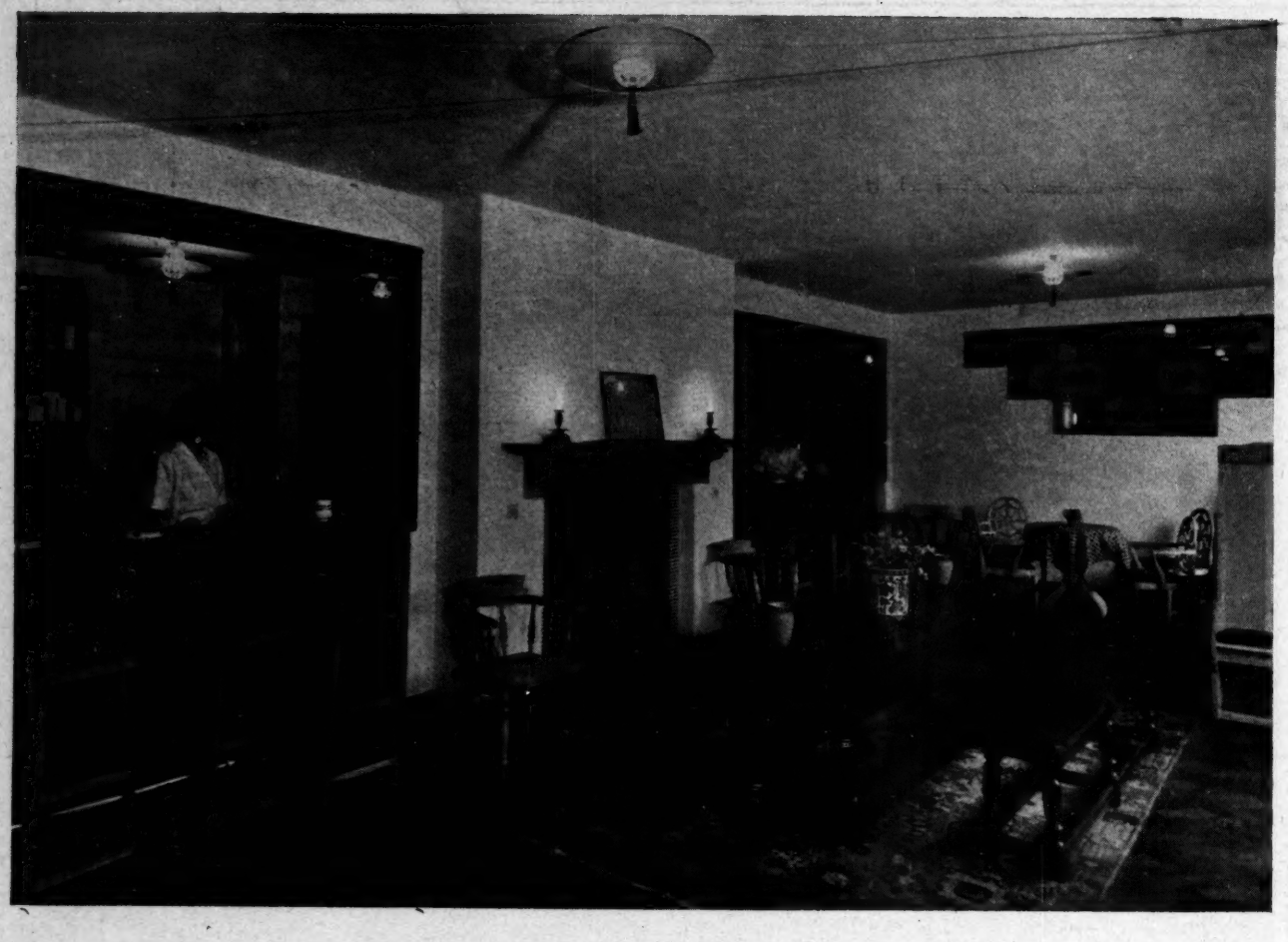
BACK [WEST] ELEVATION



SOUTH ELEVATION
[ANNEXE FOR GUESTS]

THE DRUM INN, COCKINGTON, SOUTH DEVON.

SIR EDWIN LUTYENS, R.A., P.I.A.A.S., Architect.

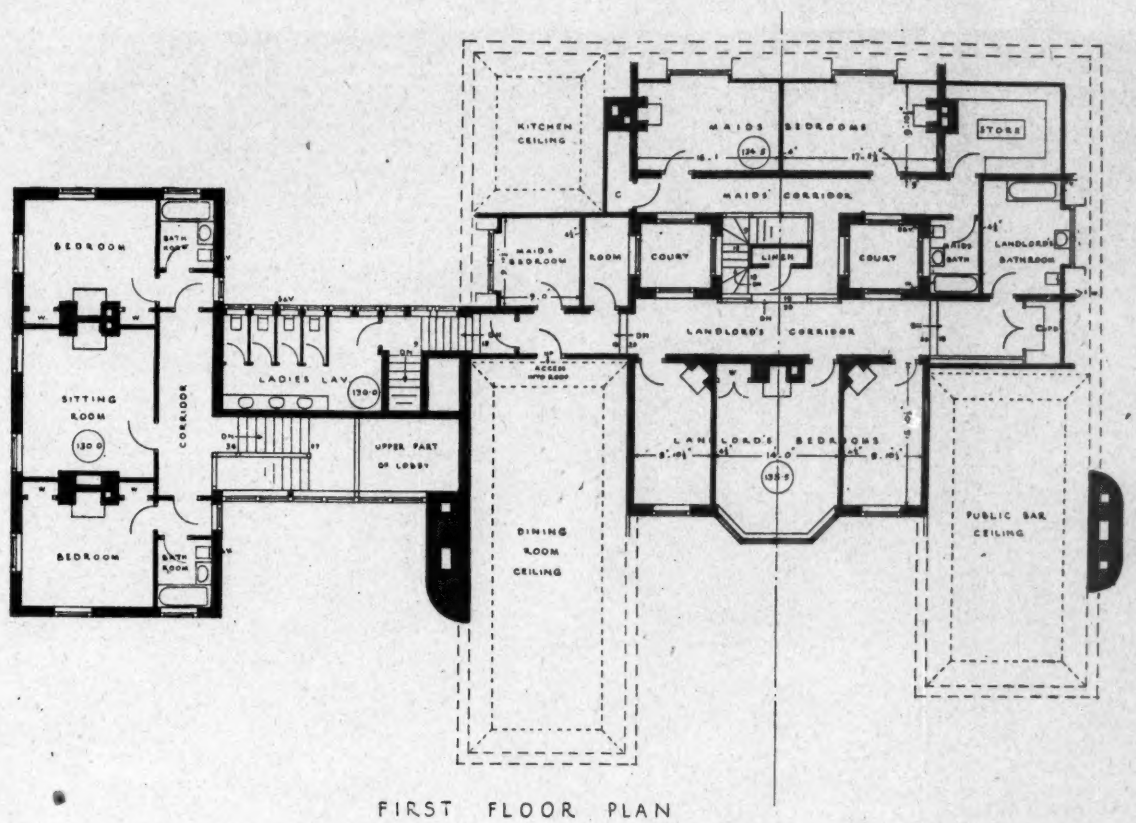


SALOON LOUNGE.

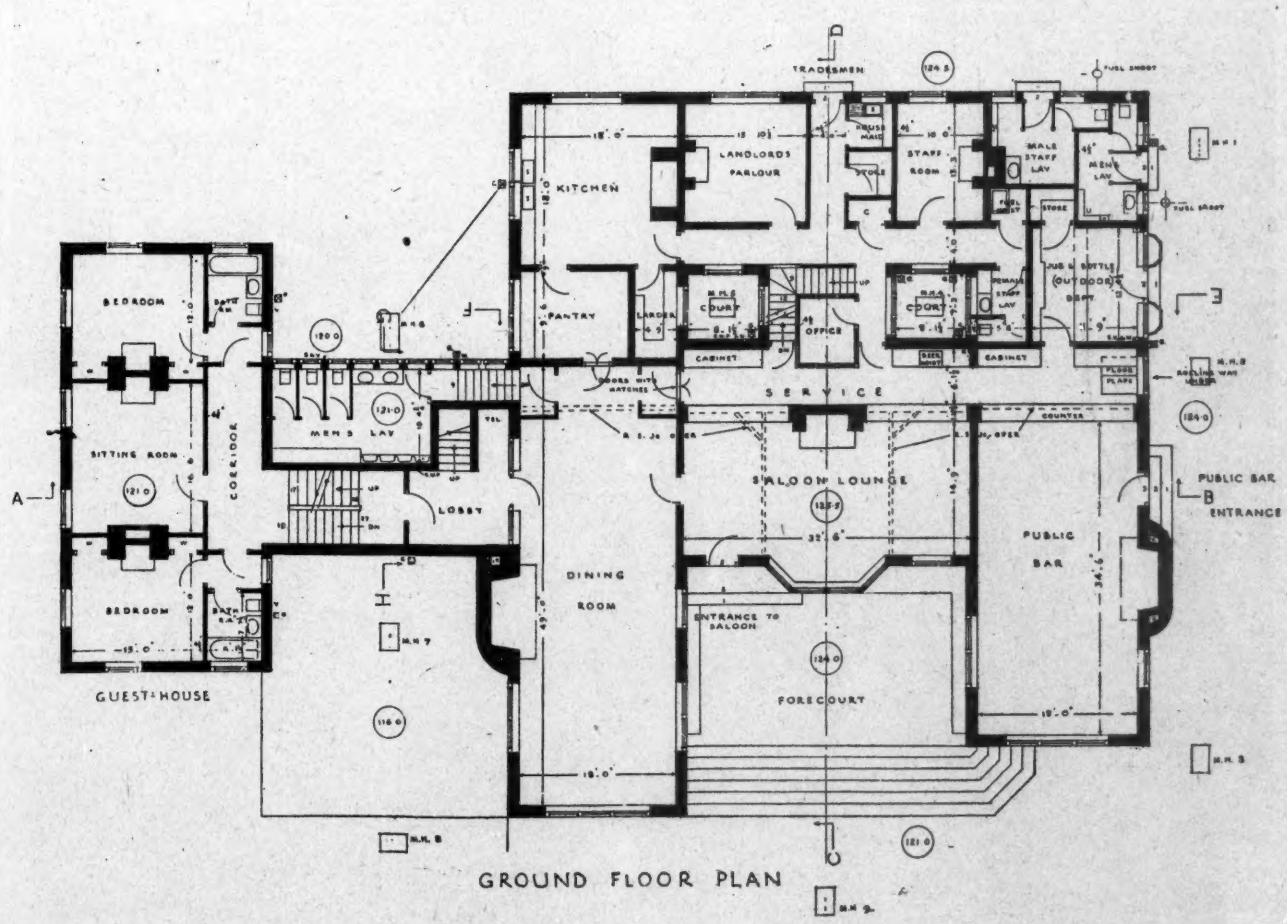
PUBLIC BAR.

THE DRUM INN, COCKINGTON, SOUTH DEVON.

SIR EDWIN LUTYENS, R.A., P.I.A.A.S., Architect.



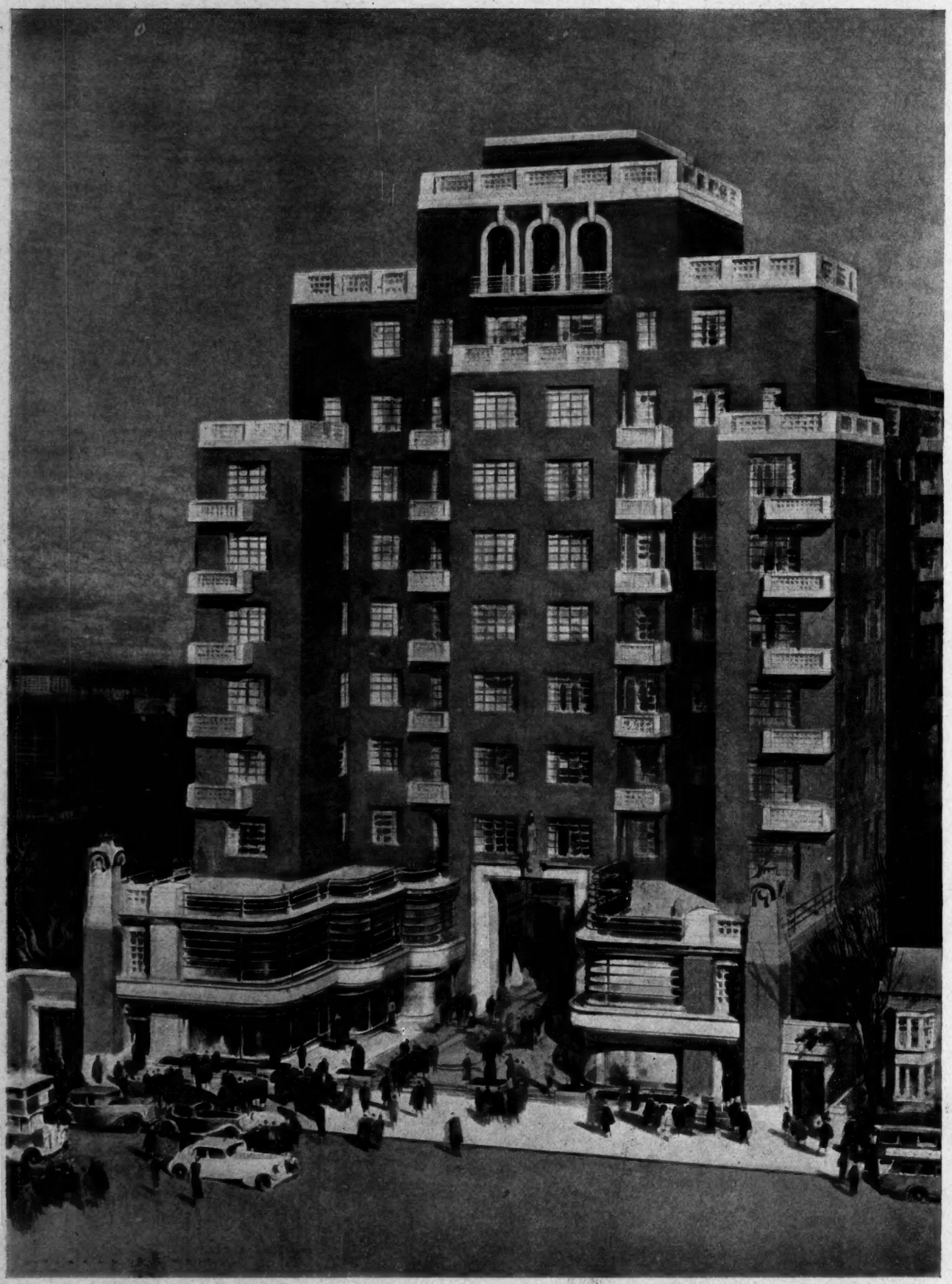
FIRST FLOOR PLAN



GROUND FLOOR PLAN

THE DRUM INN, COCKINGTON, SOUTH DEVON.

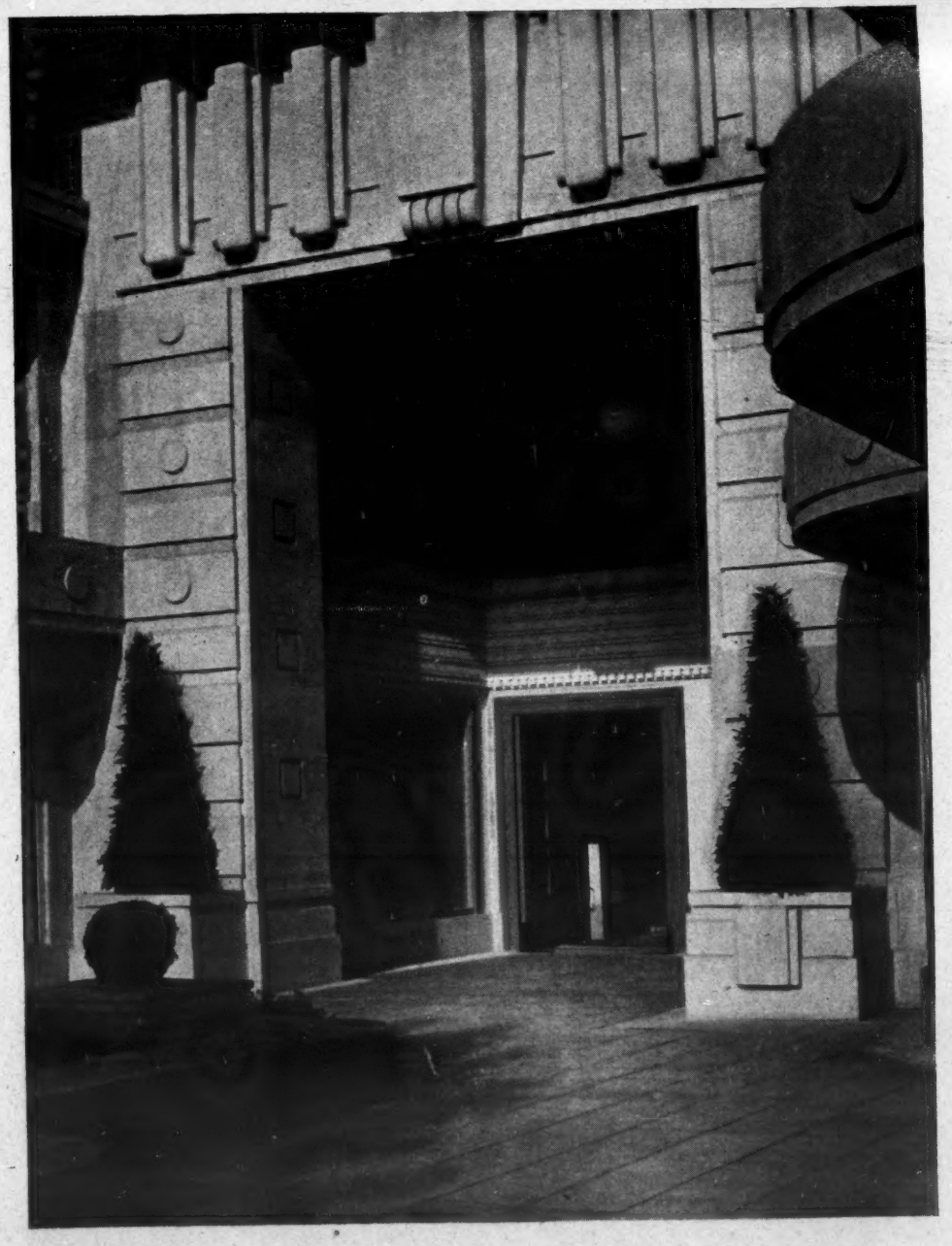
SIR EDWIN LUTYENS, R.A., P.I.A.A.S., Architect.



NEW FLATS, "THE GRAMPIANS," SHEPHERD'S BUSH, W.

SIR ASTON WEBB AND SON AND MESSRS. COLLCUTT AND HAMP, Associated Architects.

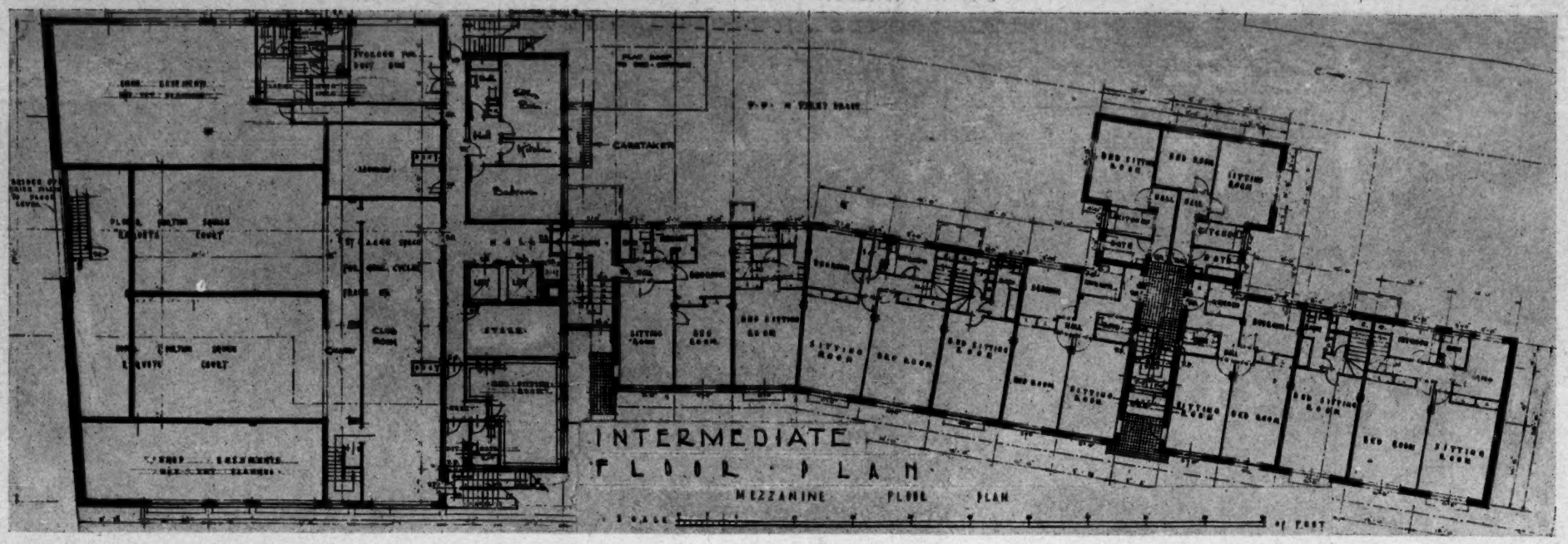
DETAIL OF SHOPS.

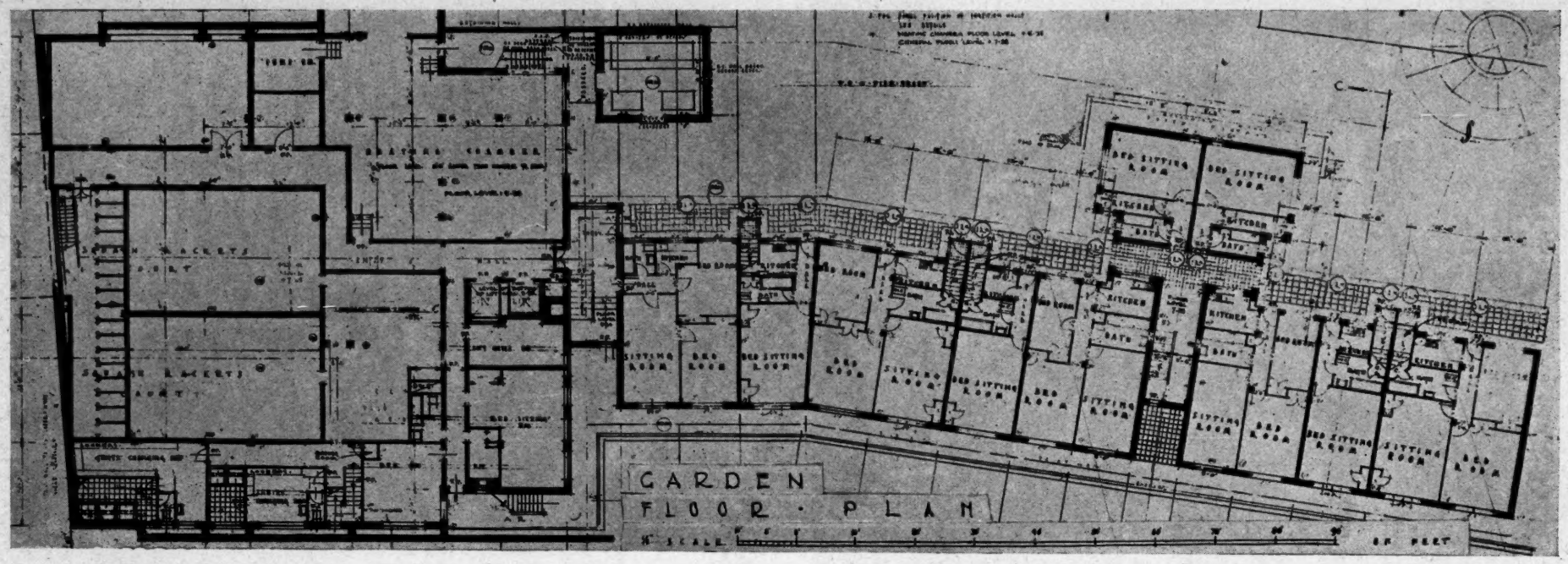


DETAIL OF PRINCIPAL ENTRANCE.

NEW FLATS, "THE GRAMPIANS," SHEPHERD'S BUSH, W.

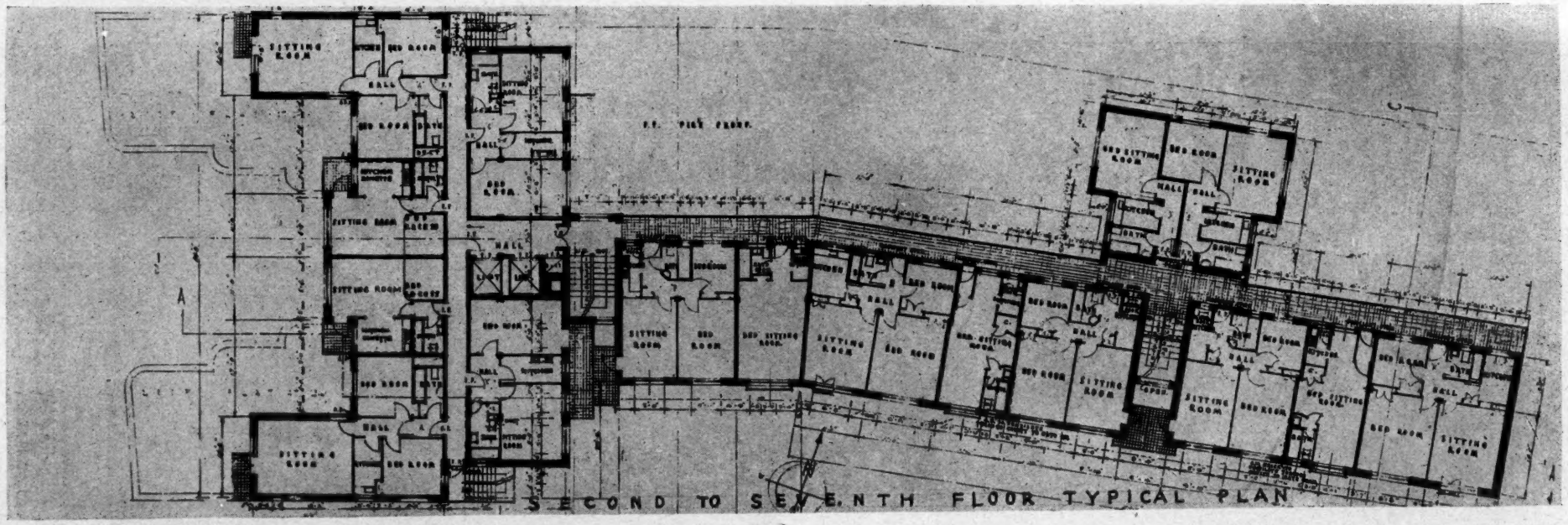
SIR ASTON WEBB AND SON AND MESSRS. COLLCUTT AND HAMP, Associated Architects.

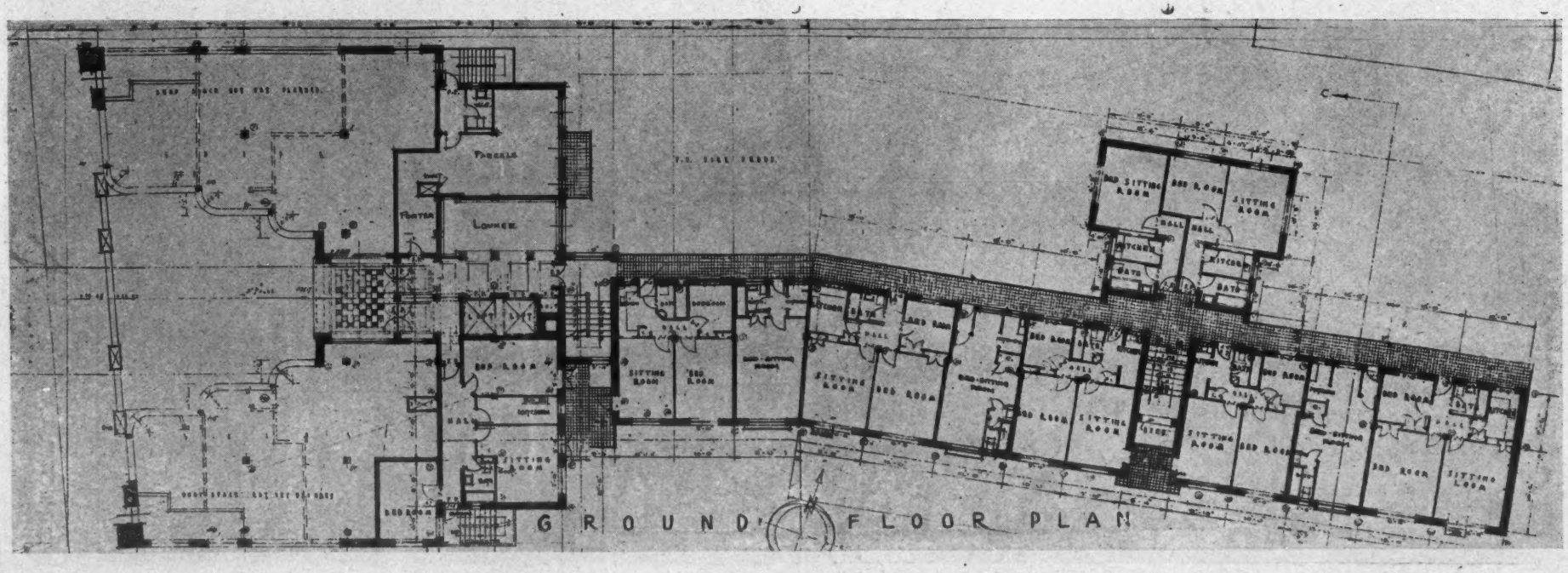




NEW FLATS, "THE GRAMPIANS," SHEPHERD'S BUSH, W.

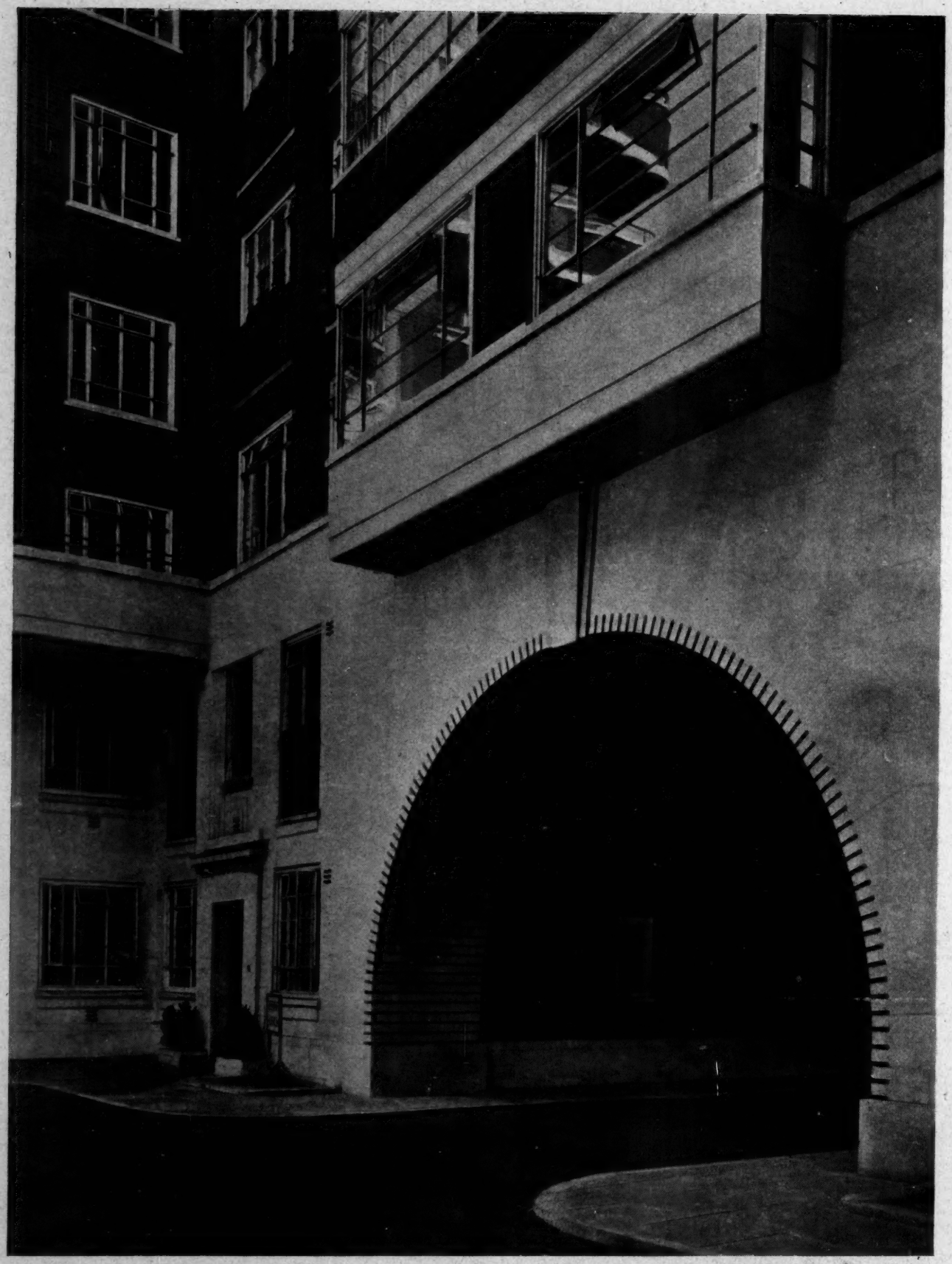
SIR ASTON WEBB AND SON AND MESSRS. COLLCUTT AND HAMP, Associated Architects.





NEW FLATS, "THE GRAMPIANS," SHEPHERD'S BUSH, W.

SIR ASTON WEBB AND SON AND MESSRS. COLLCUTT AND HAMP, Associated Architects.



"WESTMINSTER GARDENS" (FLATS AND MAISONETTES), MARSHAM STREET, WESTMINSTER, S.W. : Detail of Archway.

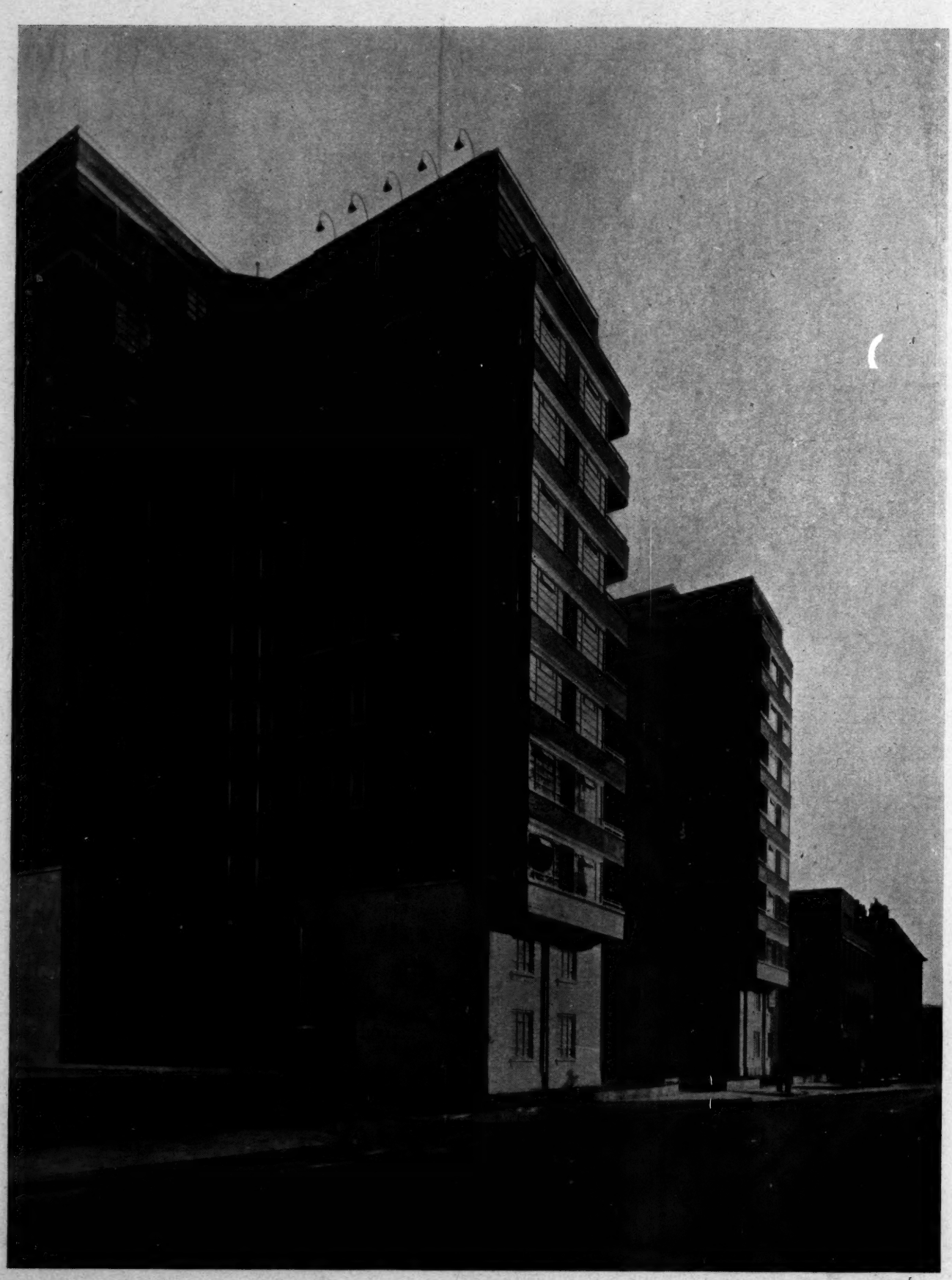
MESSRS. T. P. BENNETT, F.R.I.B.A., AND SON, Architects.

BACK ELEVATIONS.

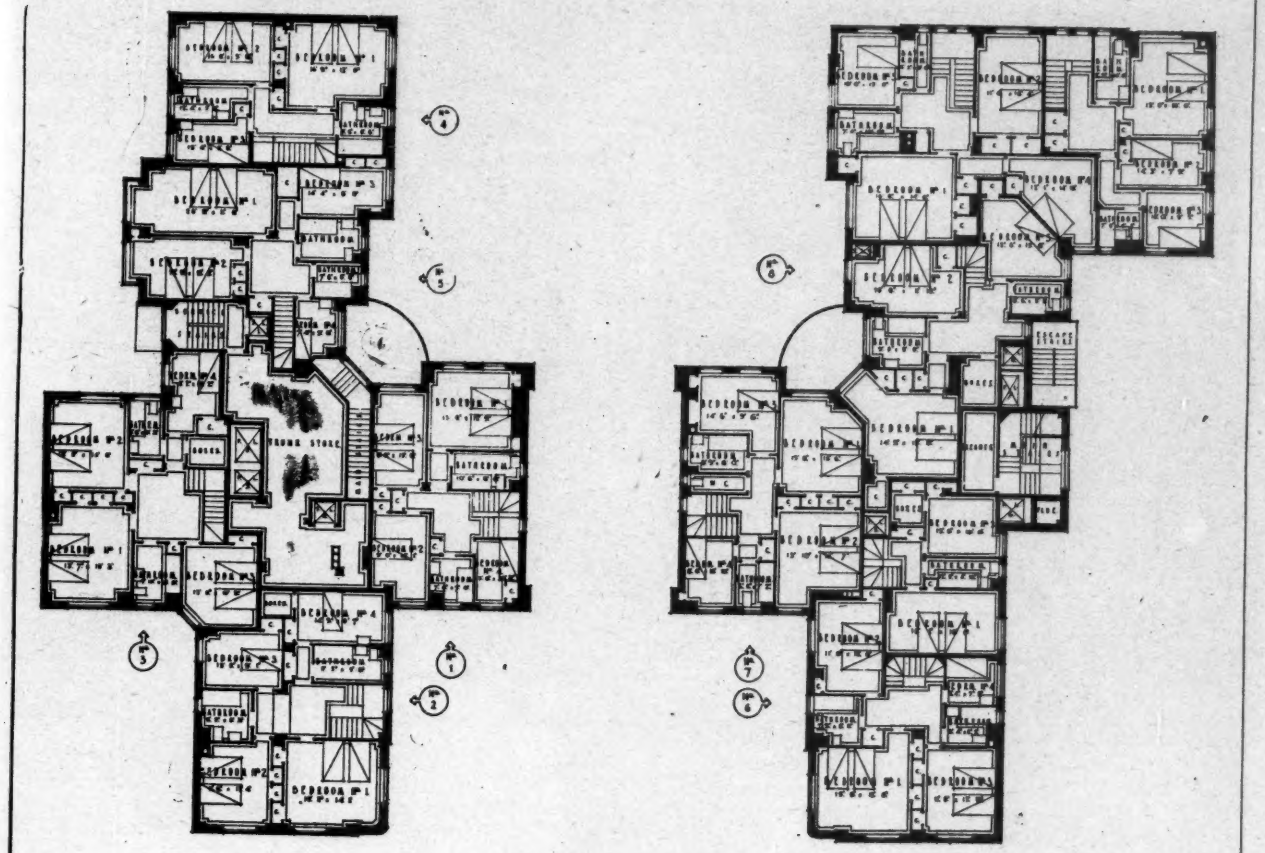
DETAIL OF ENTRANCE FRONT.

"WESTMINSTER GARDENS" (FLATS AND MAISONETTES), MARSHAM STREET, WESTMINSTER, S.W.

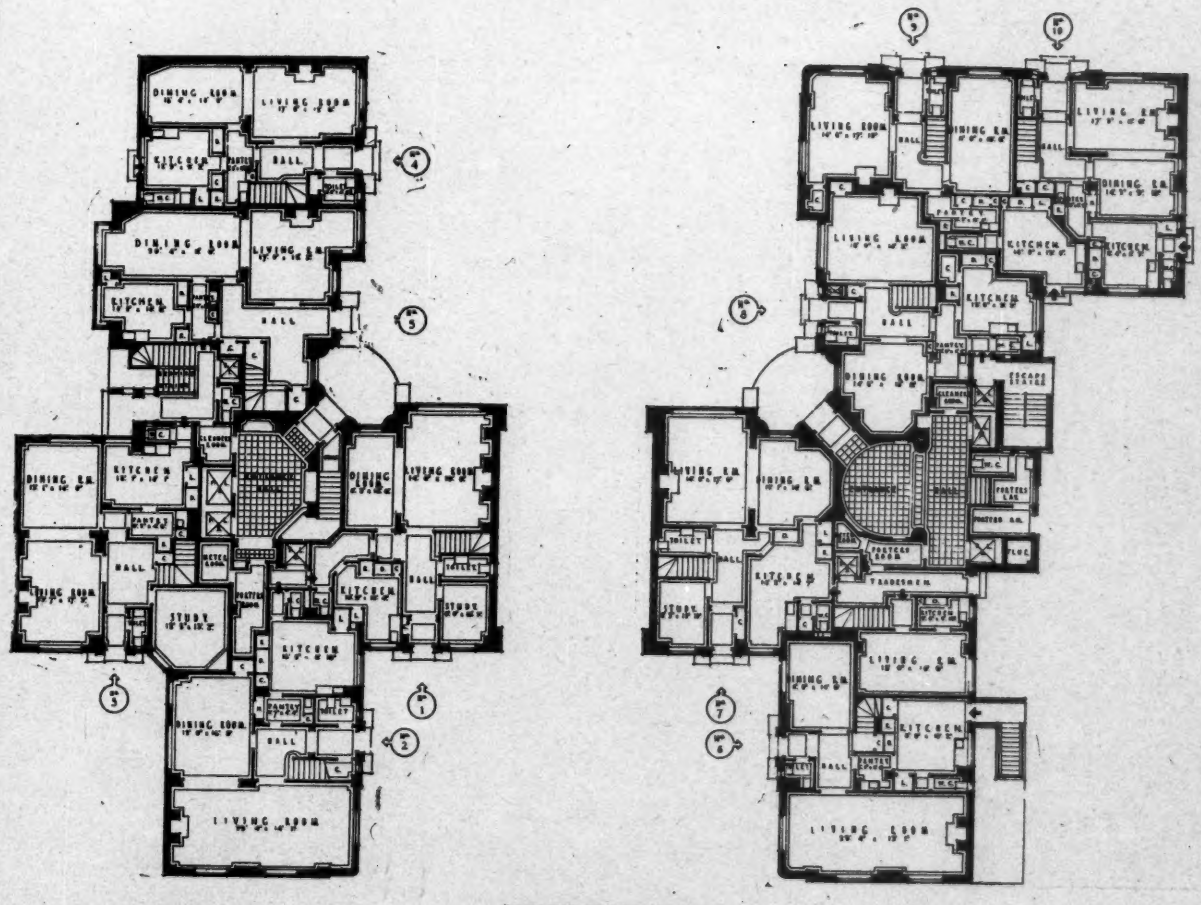
MESSRS. T. P. BENNETT, F.R.I.B.A., AND SON, Architects.



"WESTMINSTER GARDENS" (FLATS AND MAISONETTES), MARSHAM STREET, WESTMINSTER, S.W.
Main Frontages.
MESSRS. T. P. BENNETT, F.R.I.B.A., AND SON, Architects.



FIRST-FLOOR PLAN.



GROUND-FLOOR PLAN.

"WESTMINSTER GARDENS" (FLATS AND MAISONETTES), MARSHAM STREET, WESTMINSTER, S.W.

MESSRS. T. P. BENNETT, F.R.I.B.A., AND SON, Architects.

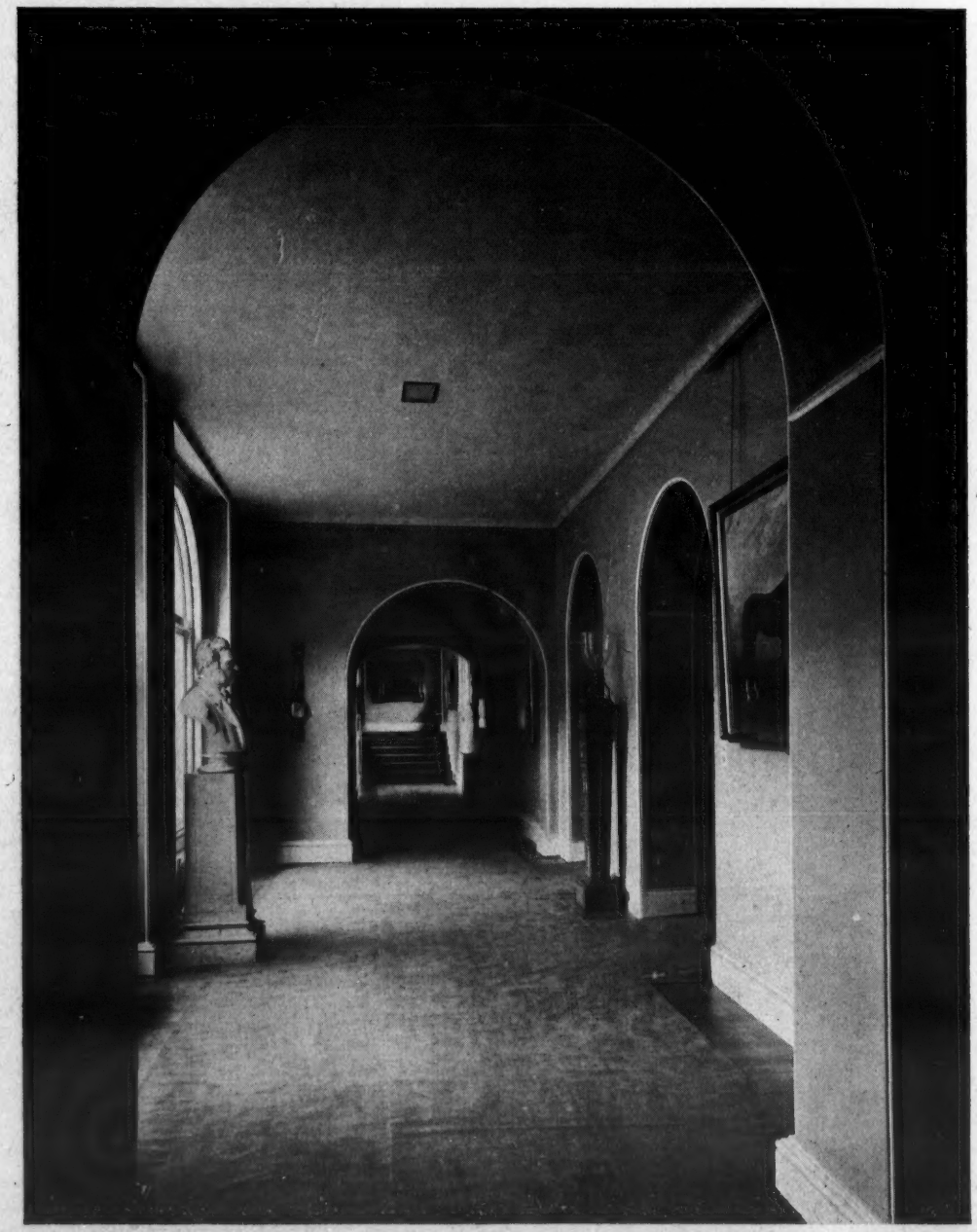
R.C.M. & T. LIBRARY TAUNTON

THE ENTRANCE FRONT.

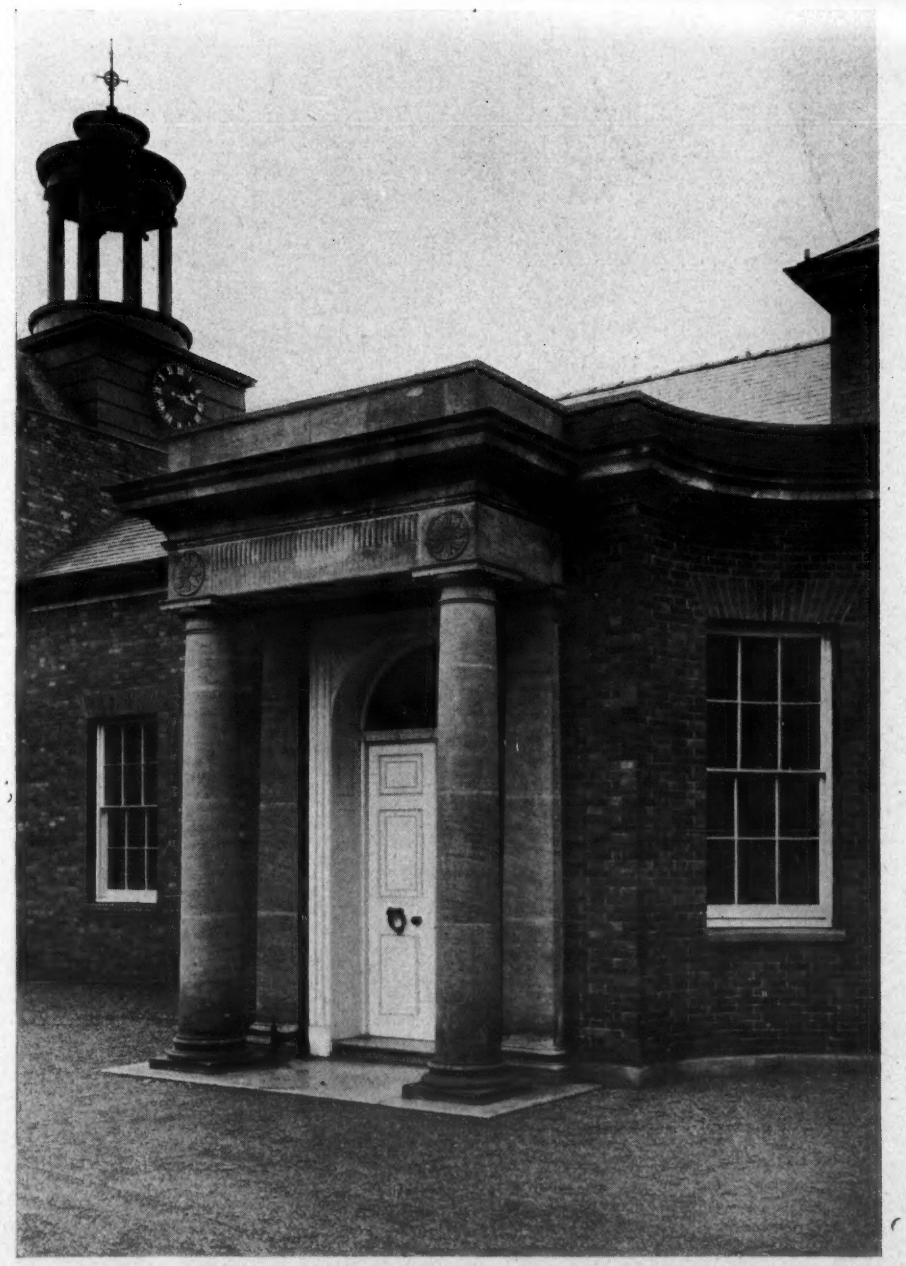
THE MAIN ENTRANCE HALL.

THE JOCKEY CLUB, NEWMARKET: Alterations and Additions.

MESSRS. RICHARDSON AND GILL, FF.R.I.B.A., Architects.



PORTION OF CORRIDOR.

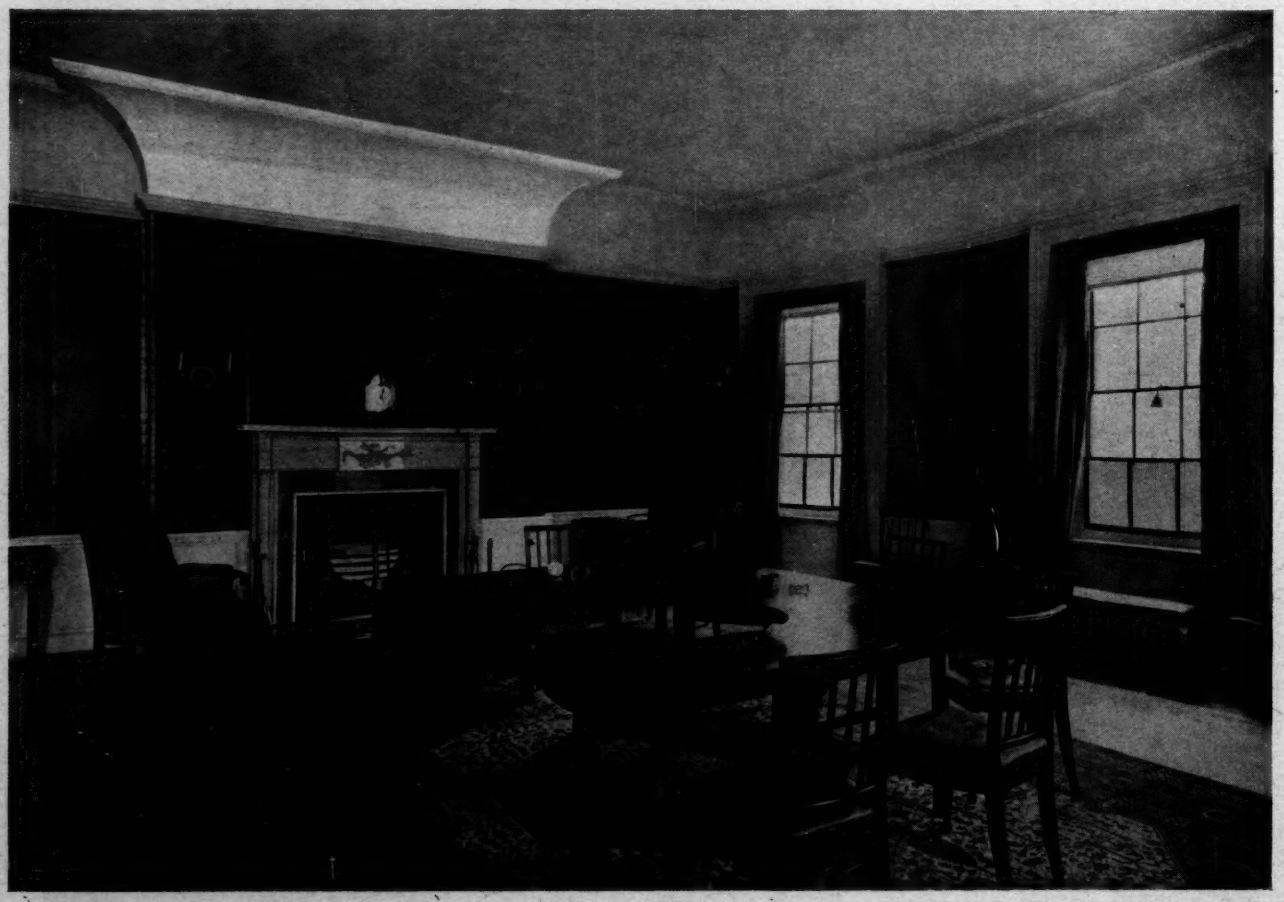


THE MAIN ENTRANCE.

THE JOCKEY CLUB, NEWMARKET: Alterations and Additions.

MESSRS. RICHARDSON AND GILL, FF.R.I.B.A., Architects.

THE CARD ROOM.

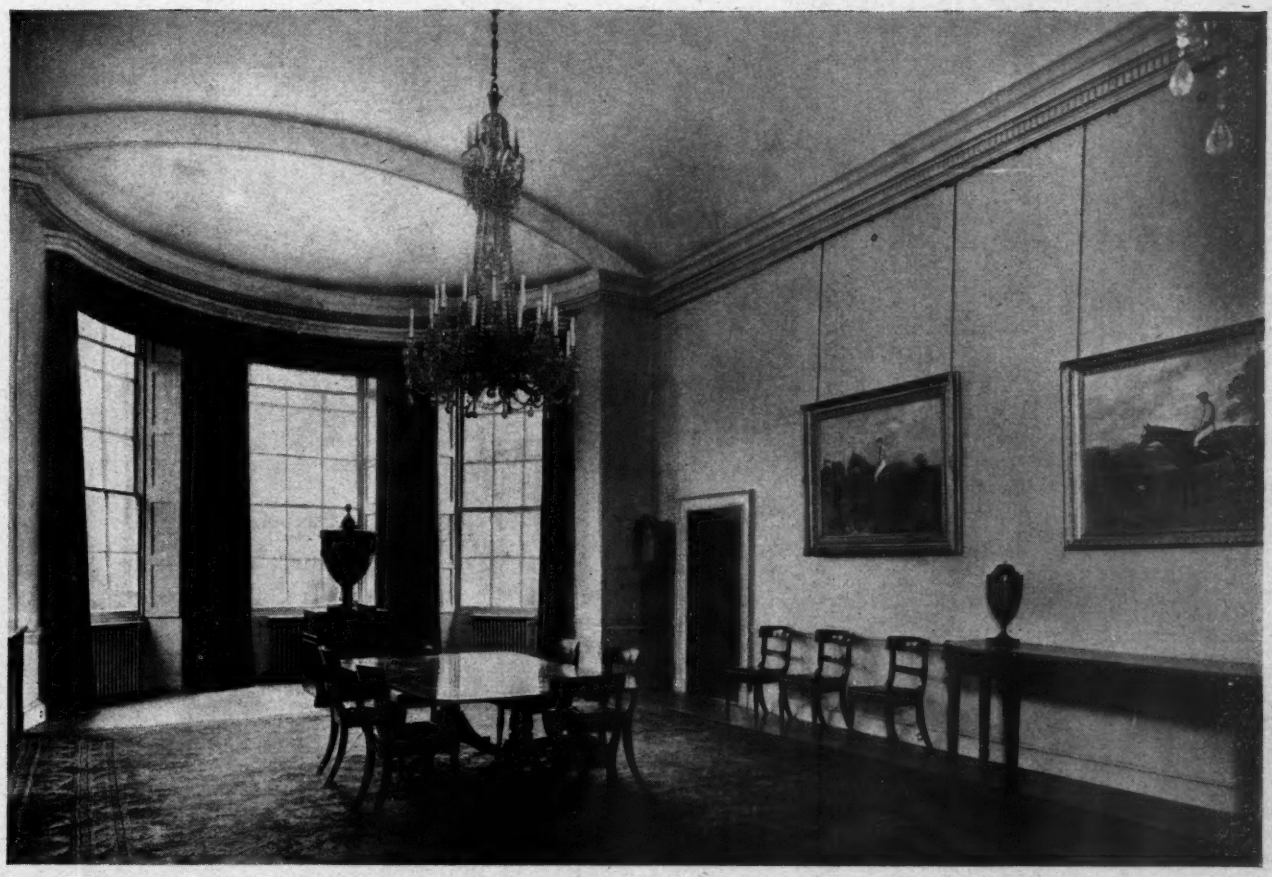


THE STEWARDS' ROOM.

THE JOCKEY CLUB, NEWMARKET: Alterations and Additions.

MESSRS. RICHARDSON AND GILL, FF.R.I.B.A., Architects.

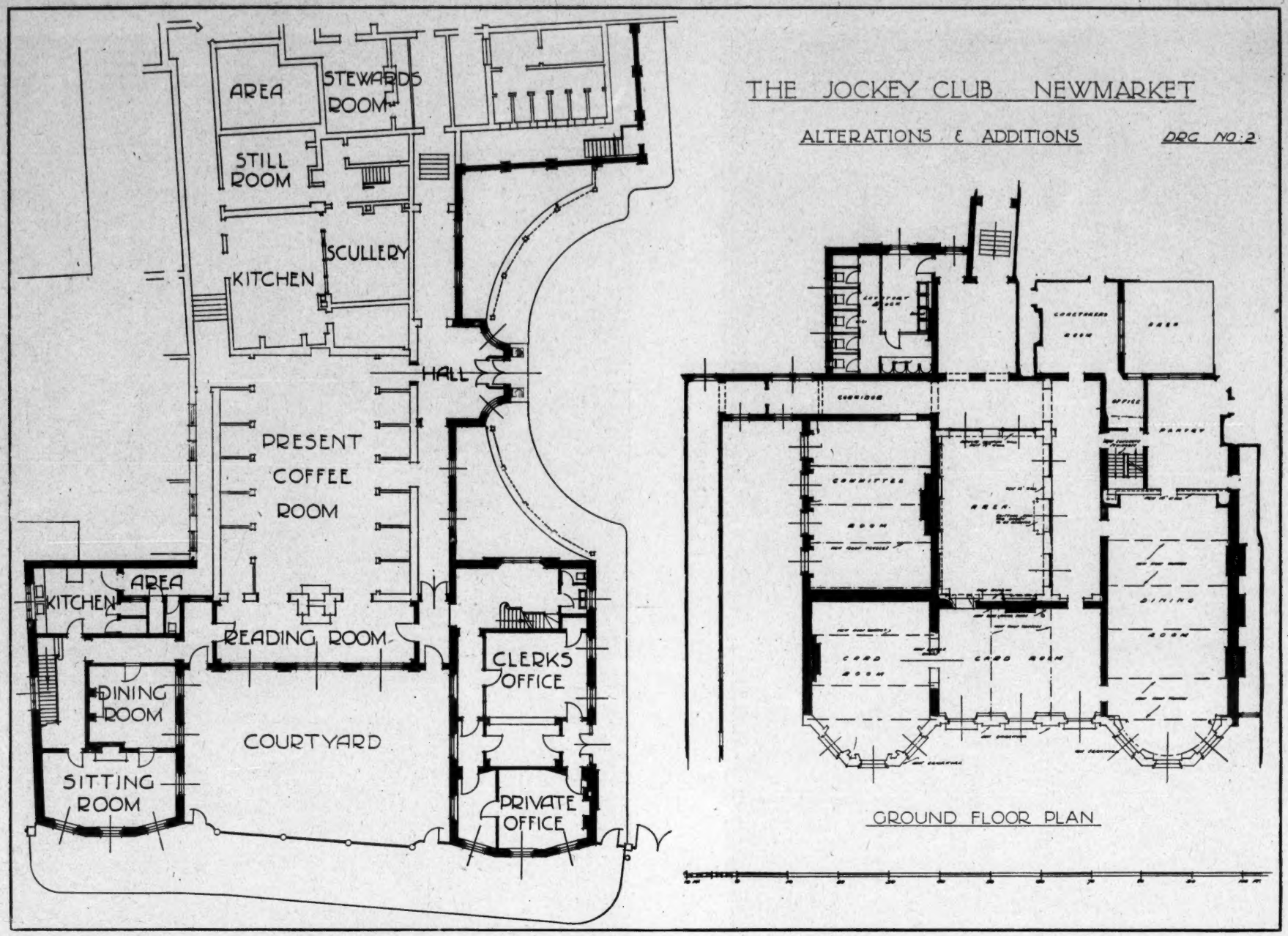
THE COFFEE ROOM.



THE DINING ROOM.

THE JOCKEY CLUB, NEWMARKET: Alterations and Additions.

MESSRS. RICHARDSON AND GILL, FF.R.I.B.A., Architects.



THE JOCKEY CLUB, NEWMARKET: Alterations and Additions. Ground-floor Plan.

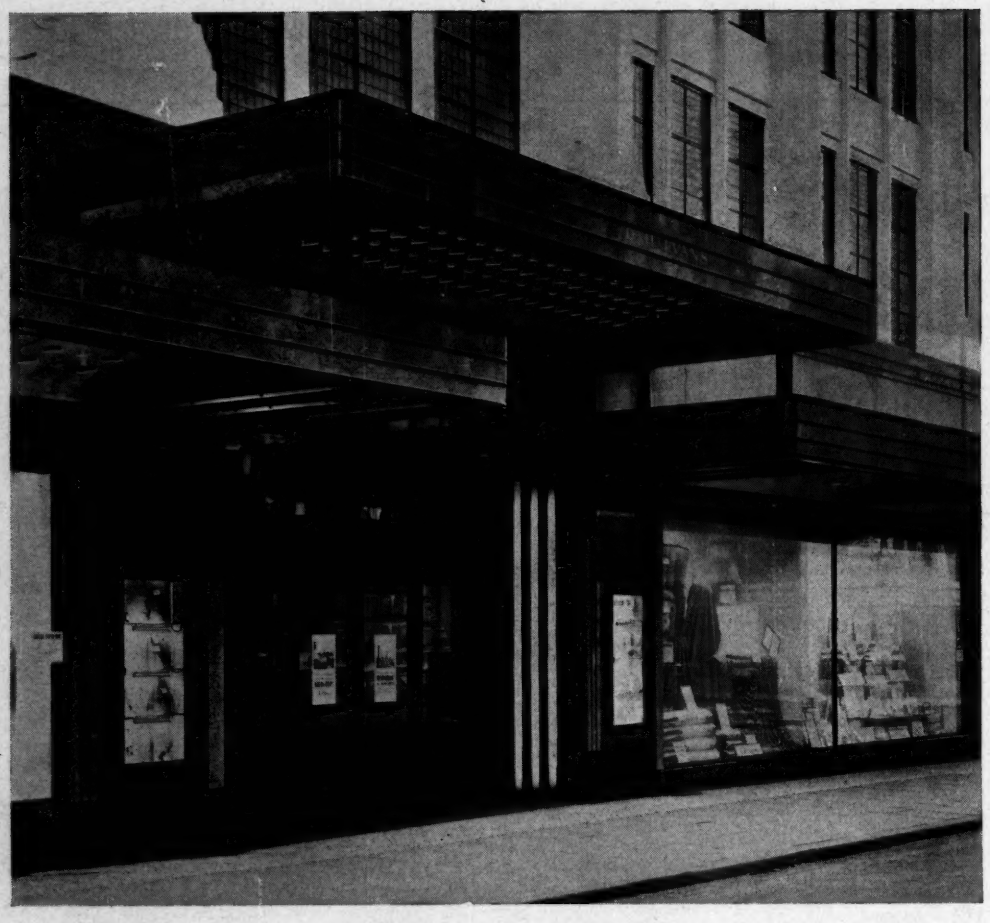
[The plan on the right, if reversed, "reads on" to the top of the left-hand plan.]

MESSRS. RICHARDSON AND GILL, FF.R.I.B.A., Architects.

FRONTAGE TO OXFORD STREET.

NEW STORE FOR D. H. EVANS AND CO., LTD., OXFORD STREET, W.

MR. LOUIS BLANC, L.R.i.B.A., Architect.



DETAIL OF ENTRANCE, OLD CAVENDISH STREET.

VIEW SHOWING OXFORD STREET (LEFT) AND OLD CAVENDISH STREET FRONTAGES.

NEW STORE FOR D. H. EVANS AND CO., LTD., OXFORD STREET, W.

MR. LOUIS BLANC, L.R.I.B.A., Architect.

THE ESCALATOR HALL, FIFTH FLOOR.

THE "UP" ESCALATOR AT GROUND-FLOOR LEVEL.

NEW STORE FOR D. H. EVANS AND CO., LTD., OXFORD STREET, W.

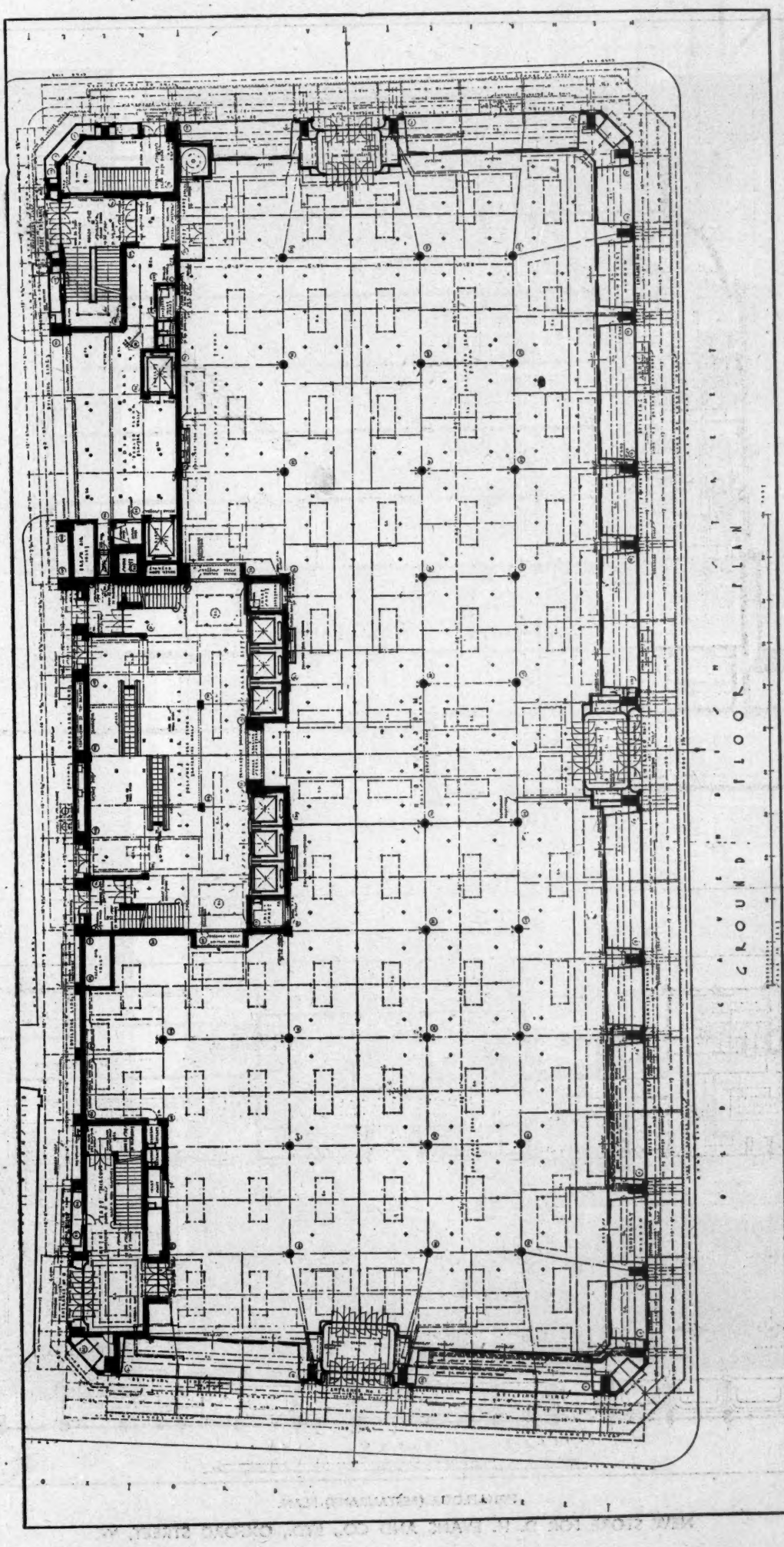
MR. LOUIS BLANC, L.R.I.B.A., Architect.

A VIEW IN THE RESTAURANT.

A TYPICAL FASHION FLOOR.

NEW STORE FOR D. H. EVANS AND CO., LTD., OXFORD STREET, W.

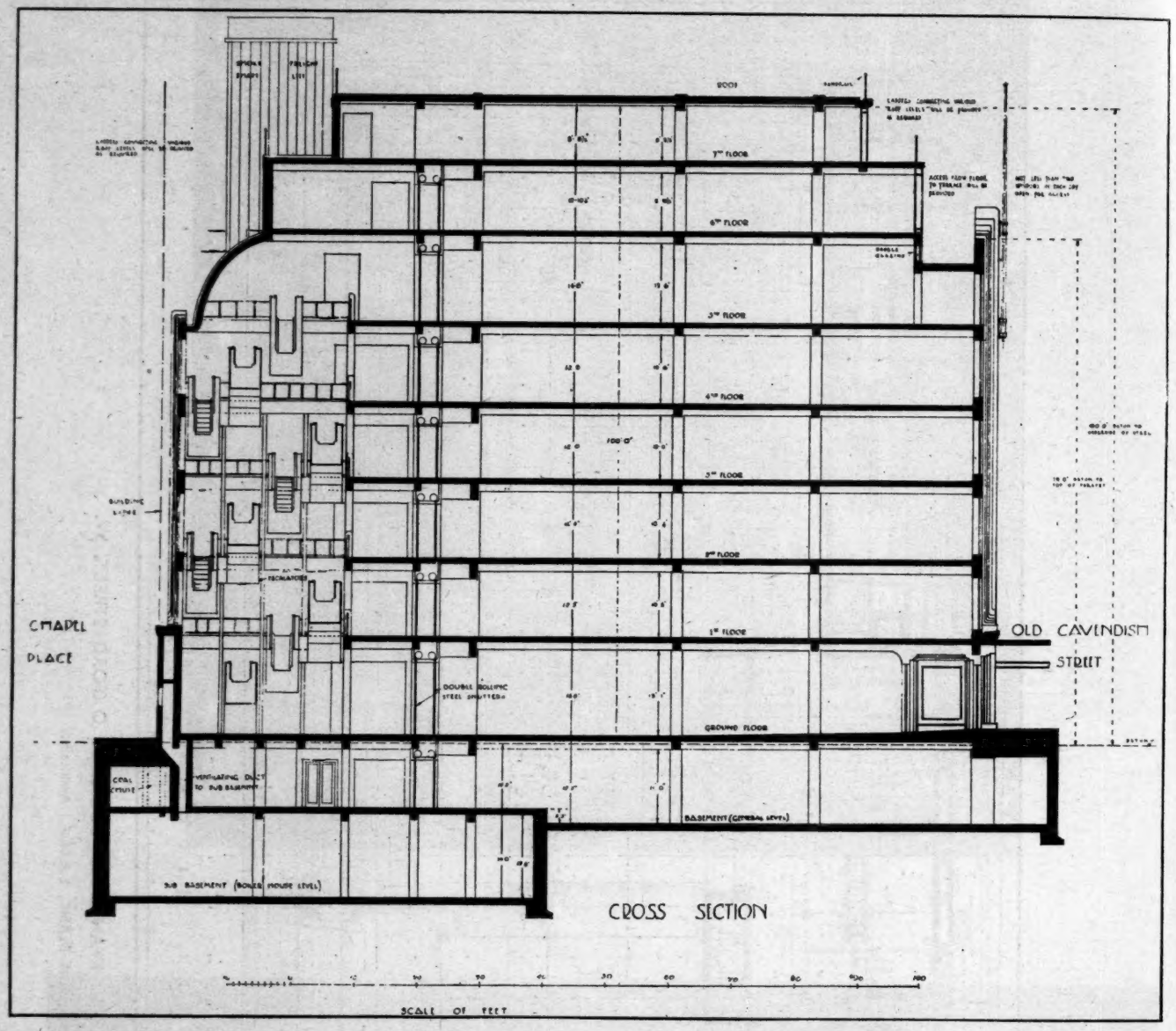
MR. LOUIS BLANC, L.R.I.B.A., Architect.



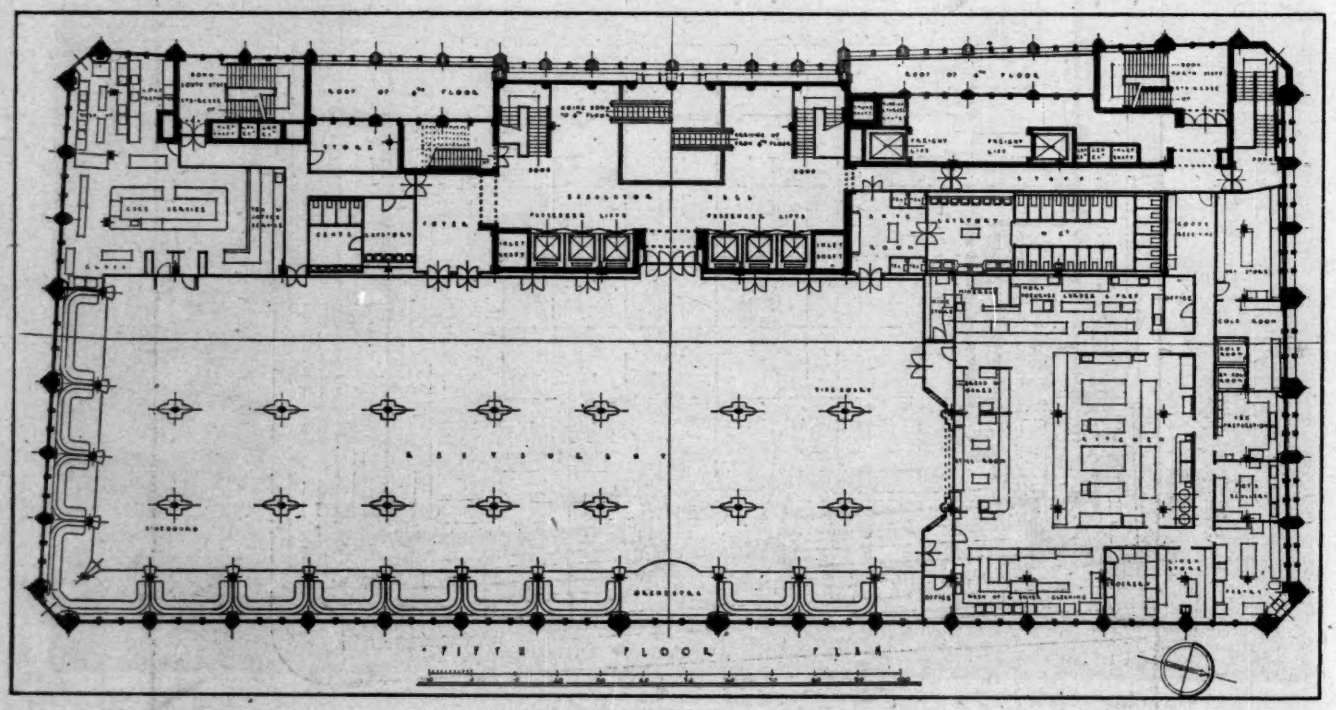
GROUND FLOOR PLAN

NEW STORE FOR D. H. EVANS AND CO., LTD., OXFORD STREET, W.

MR. LOUIS BLANC, L.R.I.B.A., Architect.



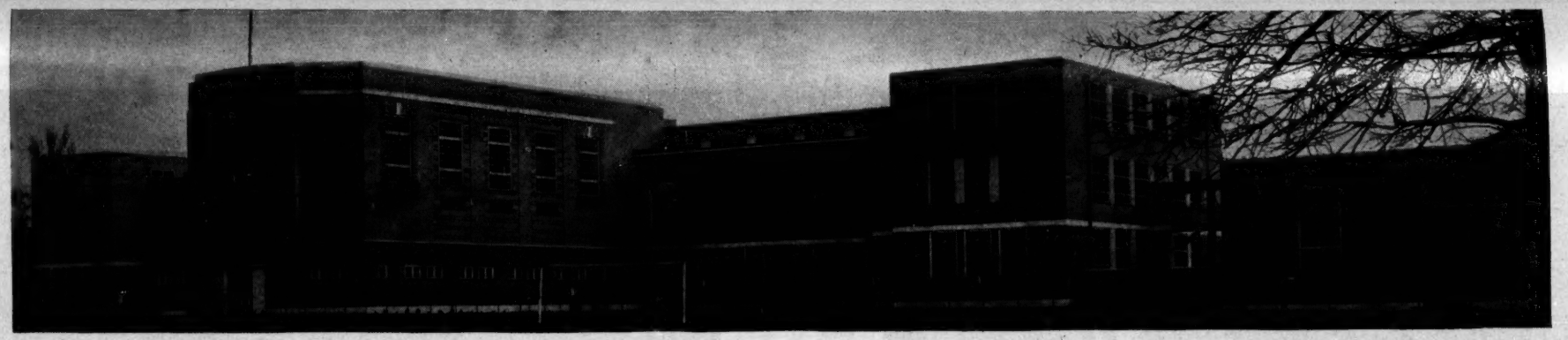
CROSS SECTION



FIFTH-FLOOR (RESTAURANT) PLAN.

NEW STORE FOR D. H. EVANS AND CO., LTD., OXFORD STREET, W.

MR. LOUIS BLANC, L.R.I.B.A., Architect.



NORTH ELEVATION (TO PLAYING FIELD).

SOUTH ELEVATION.

BATTERSEA GRAMMAR SCHOOL, STREATHAM.

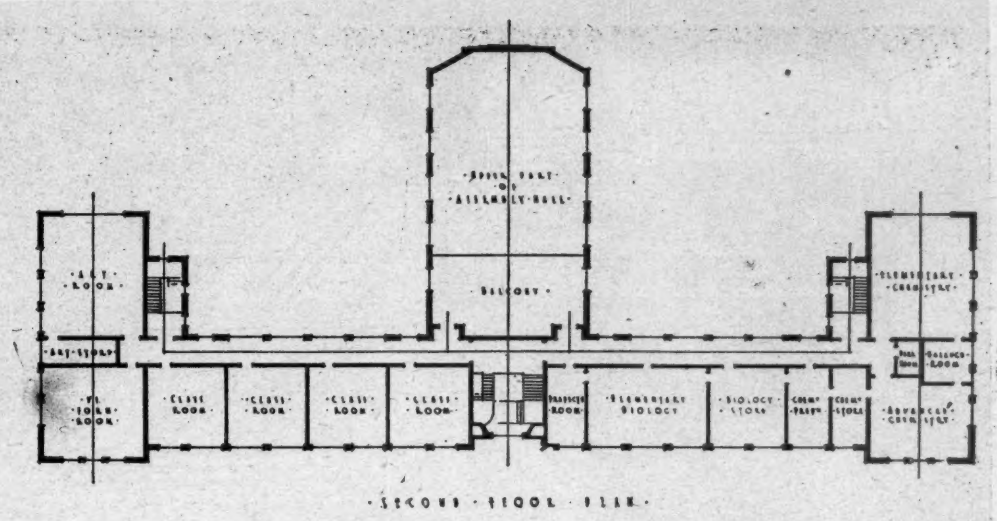
MR. J. E. K. HARRISON, A.R.I.B.A., Architect.

DINING HALL.

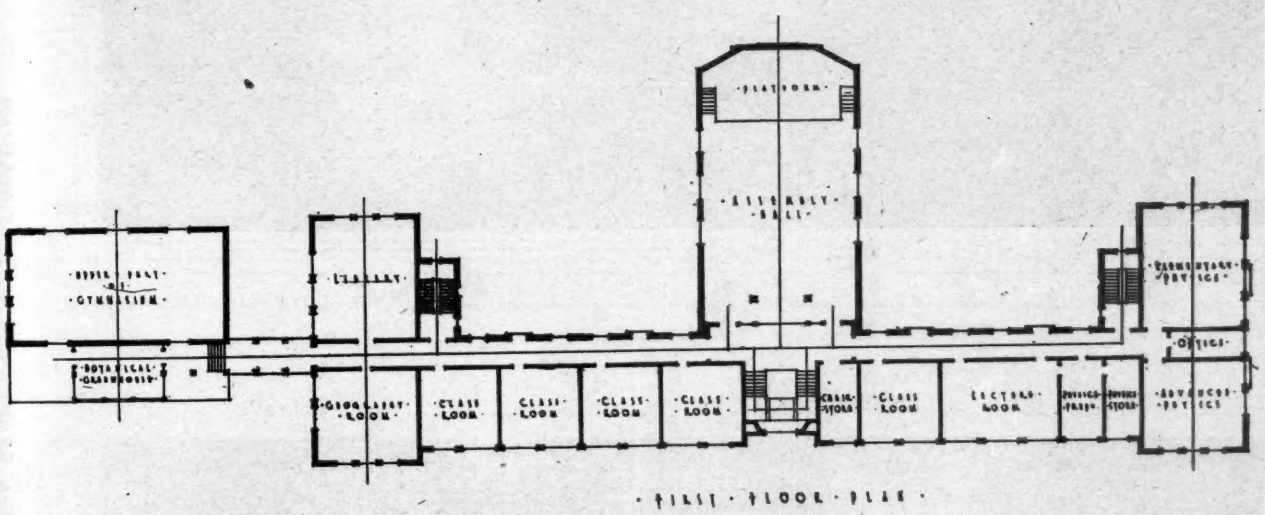
ASSEMBLY HALL.

BATTERSEA GRAMMAR SCHOOL, STREATHAM.

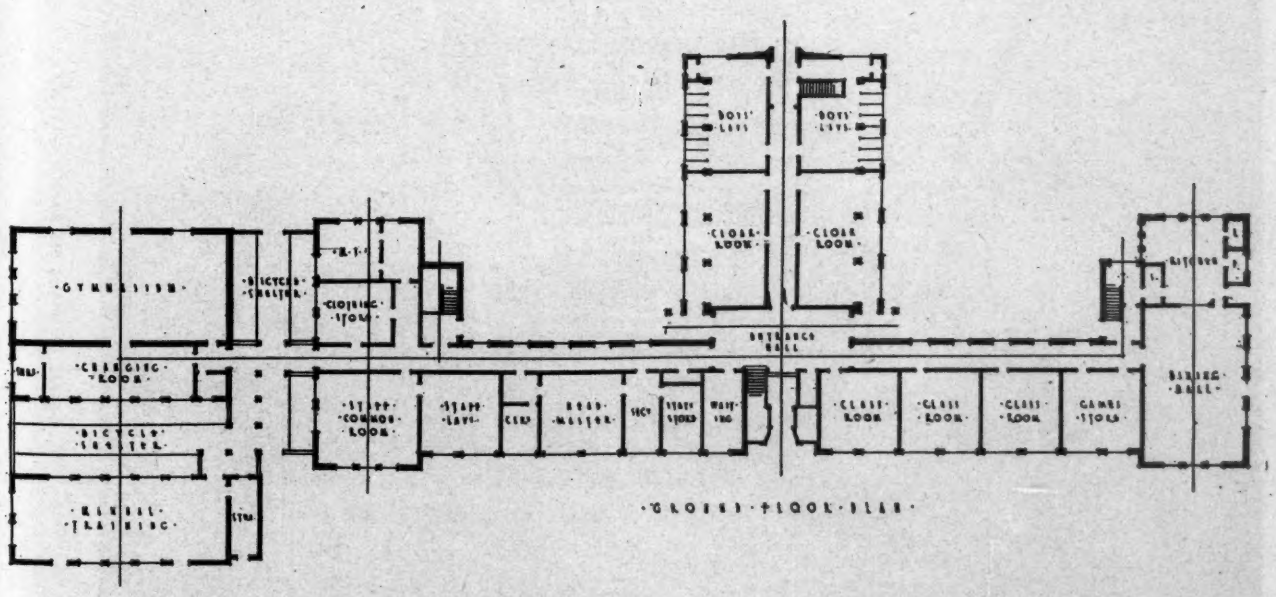
MR. J. E. K. HARRISON, A.R.I.B.A., Architect.



SECOND FLOOR PLAN



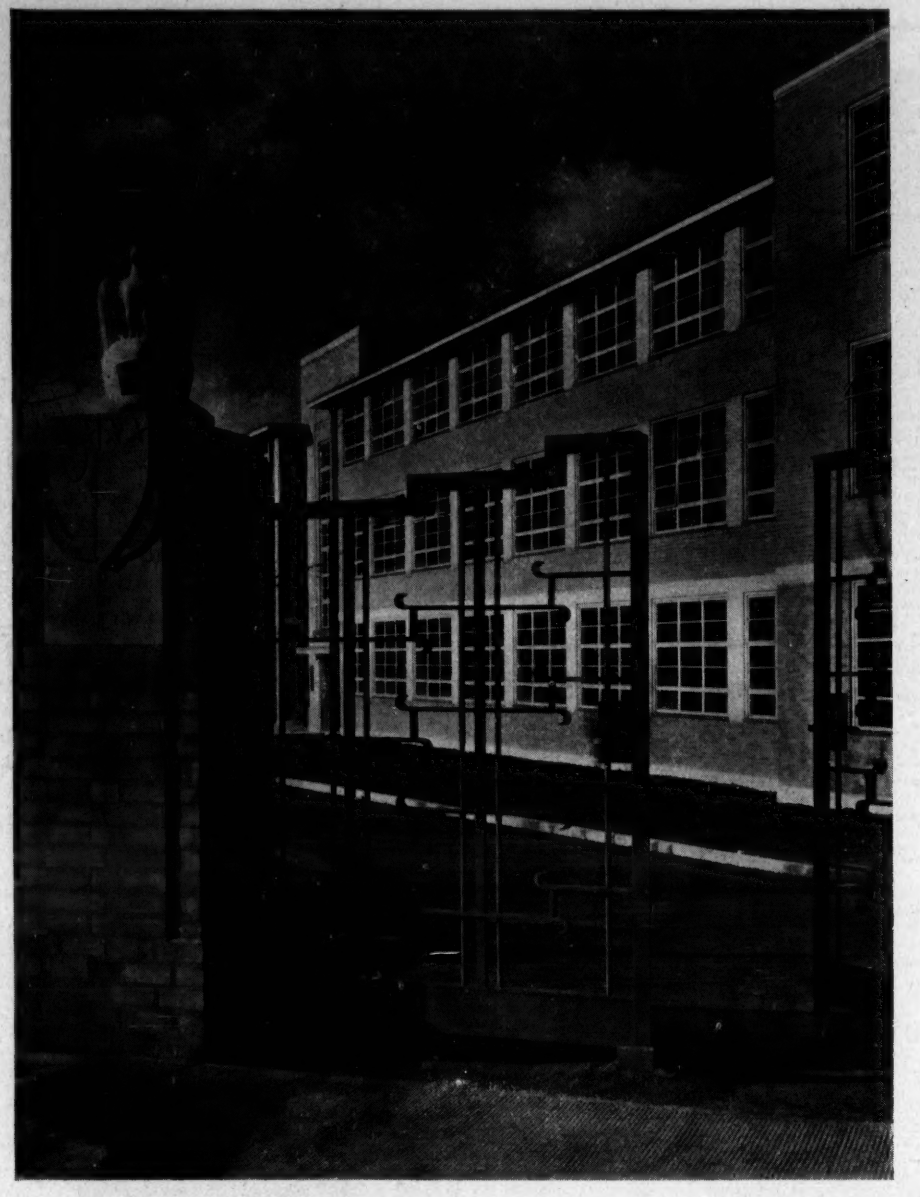
FIRST FLOOR PLAN



GROUND FLOOR PLAN

BATTERSEA GRAMMAR SCHOOL, STREATHAM.

MR. J. E. K. HARRISON, A.R.I.B.A., Architect.

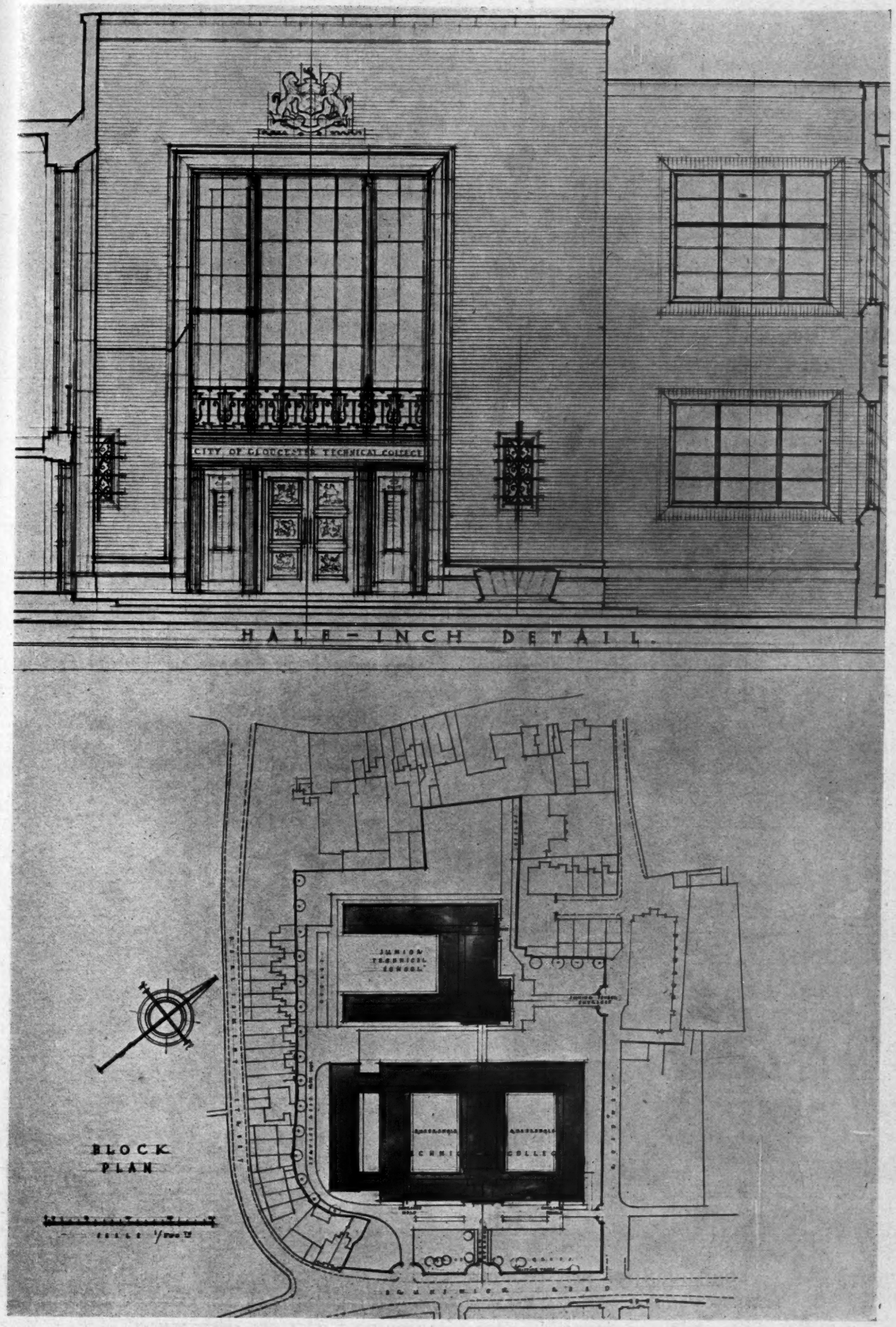


DETAIL OF MAIN ENTRANCE GATEWAY.

MAIN STAIRCASE AT FIRST FLOOR.

BATTERSEA GRAMMAR SCHOOL, STREATHAM.

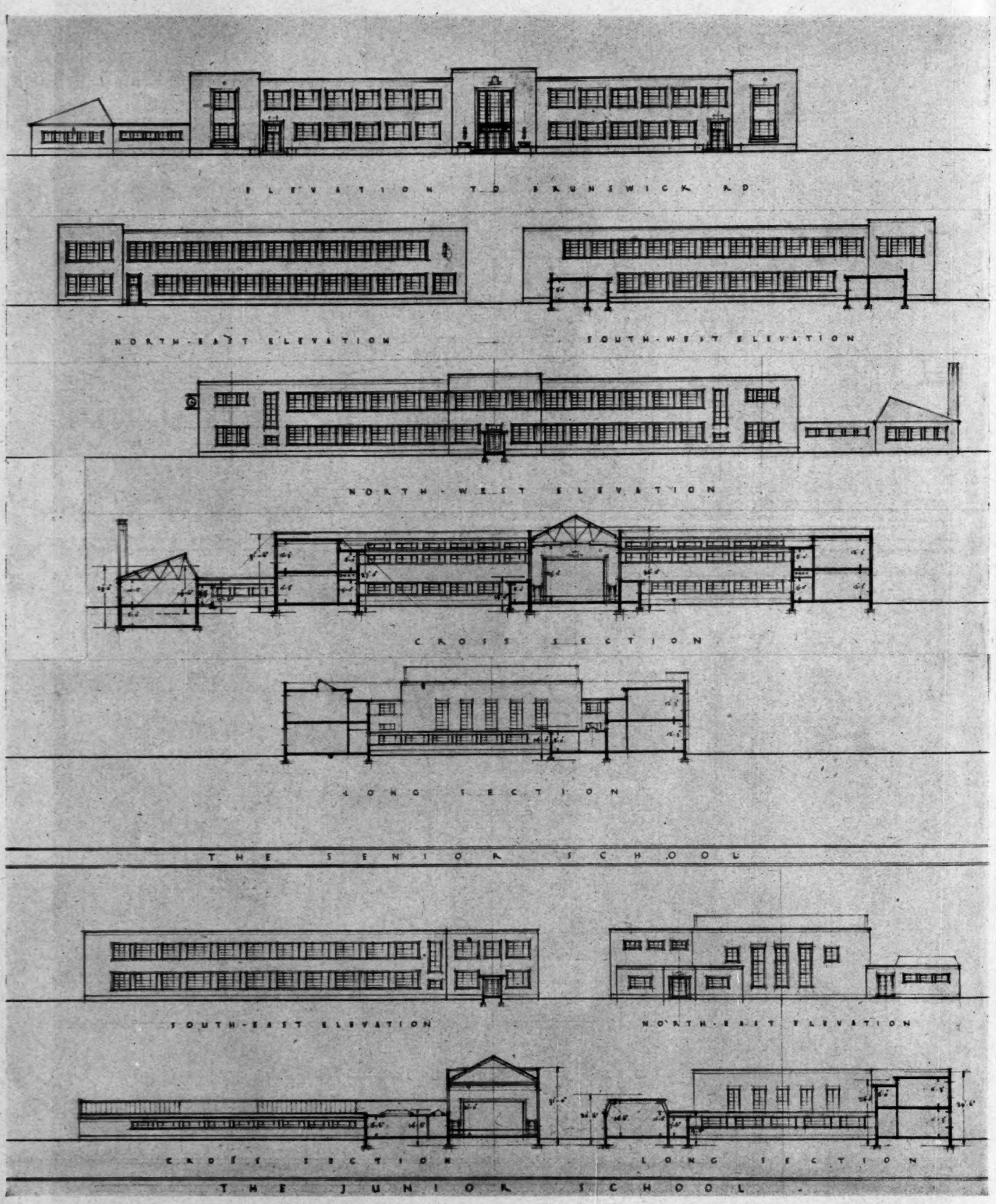
MR. J. E. K. HARRISON, A.R.I.B.A., Architect.



COMPETITION FOR NEW TECHNICAL COLLEGE, GLOUCESTER : Winning Design.

MESSRS. HICKTON AND MADELEY, AA.R.I.B.A., in association with MR. GEOFFREY W. SALT, A.R.I.B.A., Architects.

MR. J. E. K. HARRISON, A.R.I.B.A., Architect.



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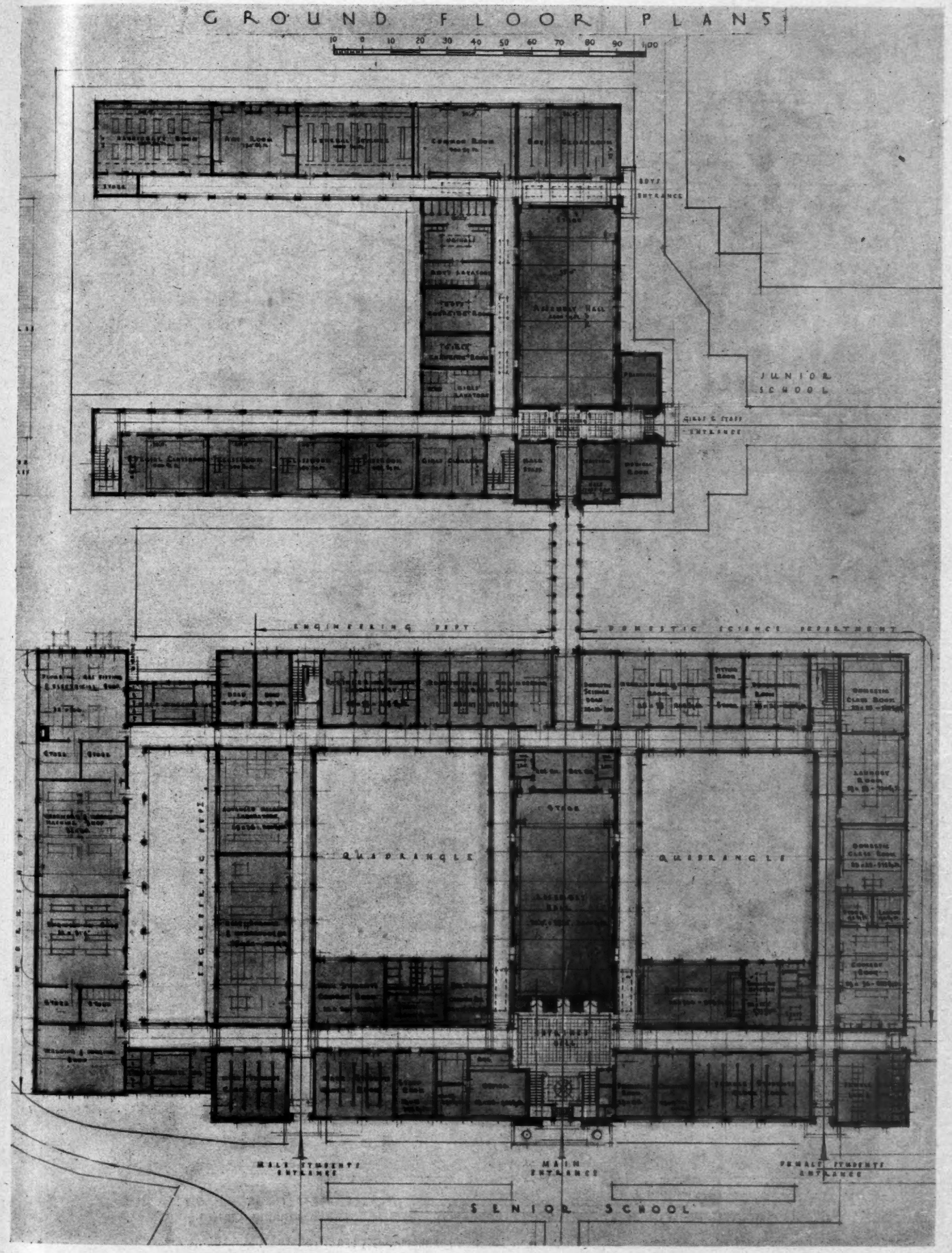

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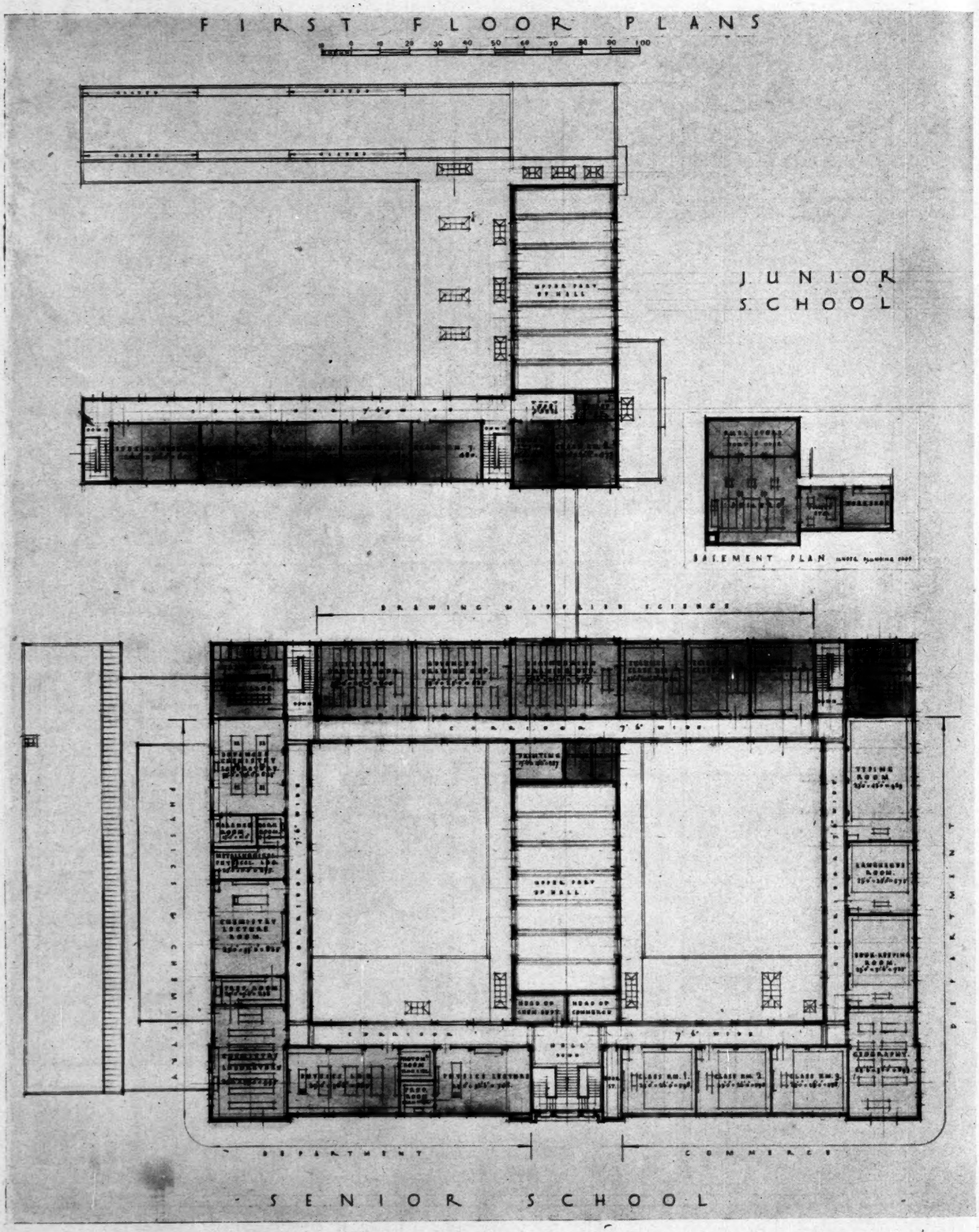


COMPETITION FOR NEW TECHNICAL COLLEGE, GLOUCESTER: Winning Design.

MESSRS. HICKTON AND MADELEY, AA.R.I.B.A., in association with MR. GEOFFREY W. SALT, A.R.I.B.A., Architects.

THE REBUILDING OF SACKVILLE STREET: VIEW SHOWING THE PICCADILLY FRONTAGE FROM SACKVILLE STREET TO ALBANY.

MR. G. J. SKIPPER, F.R.I.B.A., Architect.

ILLUSTRATIONS
PLATES

"The Builder" Drainage Calculator.

This calculator, given as a supplementary sheet, is an alignment chart based on the Ministry of Health's storm-water formula, and has been prepared by Messrs. Raymond H. Greenly, B.Sc. (Hons.) and Henry Greenly. An article on the use of the calculator is on page 133.

"The Builder" Calendar.

The illustration on our Calendar, which has been specially drawn by Mr. Joseph Pike, shows the site of the King George V Memorial, Westminster. The pedimented stone buildings in the middle distance, which (with others) are to be demolished, were erected in 1755 as residences for the Clerk and Assistant Clerk of Parliament, and were attached to those posts probably until the present Houses of Parliament were finished. The name of the architect is not known.

New Additions to Odhams Press, Long Acre.

These additions, which have recently been completed, comprise the small portion between the office block and the works section. In effect, the accommodation required was a main entrance hall on the ground floor with offices above, to which access is given by stairs and a battery of two lifts. The new addition has had the effect of giving direct access between the office block and the works on every floor, a facility which was not previously available. Owing to the fact that the site was extremely restricted, the work had to be done in sections, and was further complicated by the fact that it was essential that the steam power which was in operation between the two existing sections should not be interfered with; throughout the job this condition was faithfully observed.

Part of the new additions include the board-room, which is on the second floor. A feature of the new entrance hall is a mural by Mr. Frank Brangwyn, R.A., which is reproduced in colour in this issue. Another attractive feature are the columns of Swedish green marble. The wall surfaces generally are in Travertine. Advantage was also taken to reconstruct certain of the existing offices. The ground floor has been very handsomely treated in sycamore panelling with dados of Zebiano and walnut. The managing director's room and the principal private rooms are panelled in Australian walnut.

The architects were Messrs. Yates, Cook and Darbyshire. The general contractors were Messrs. F. G. Minter, Ltd.

New Municipal Buildings for Bristol.

Up to the present only the foundation contract for these buildings for the city and county of Bristol is being proceeded with; the main contract will go to tender in June. The site is a magnificent one, and in selecting it the city showed considerable judgment. The problem for the architect was a difficult one to solve, the site offering great opportunities yet bristling with difficulties, not the least being the fall of land from front to back. This is some 18 ft. Difficult sites with fall in levels test the skill of an architect, yet offer him great opportunities in planning and elevational treatment, which in this instance have been handled in a masterly way. The sweep of the main front has dignity, refinement and good proportion.

The principal materials will be brick and Portland stone, the two rear stories to be in granite. The building's relation to the cathedral can be admirably judged by our illustrations (taken from a model), while the plans show the position of certain departments and their floors.

Mr. E. Vincent Harris, A.R.A., is the architect. Messrs. Cowlins, of Bristol, are carrying out the foundation contract.

Temple of Peace Building, Cardiff.

This building, which is now being erected on Cathays Park, Cardiff, houses the headquarters offices of the Welsh National Memorial Association. Accommodation is also provided in the building for the Welsh League of Nations Union. A small Temple of Peace is included in the scheme, which will serve as a meeting-place for the various bodies connected with the Association and the League of Nations.

The plans show the accommodation provided, which includes a small crypt under the Temple in which it is proposed to deposit the Roll of Honour in connection with the Welsh National Memorial Association. The building is faced externally with Portland stone, and the roofs are covered with brown Italian tiles. The interior of the Temple and the entrance hall will be of polished Portland, with Travertine marble floors.

The general contractors are Messrs. E. Turner and Sons, Ltd., of Cardiff, and the architect Mr. Percy Thomas, P.R.I.B.A.

New British Girls' College, Alexandria, Egypt.

This school is being built as a Silver Jubilee Memorial to the late King George, the High Commissioner for Egypt being the President of the Appeal for Funds, to which the British Government and many well-known British and Egyptian residents in Egypt have already subscribed. Its aim is to produce a school for girls run on modern British educational principles. It will be open not only to English girls, but to Egyptians, and those of other races inhabiting the East.

The school will accommodate 350 girls and 50 children in the kindergarten, with boarding accommodation for 60. The building has been sited to take a maximum advantage of the view to the sea, and cool breezes to the north-west. As far as possible all rooms have been placed so that no direct sunlight falls on them after midday, and all windows to the sun are shuttered.

The plan divides itself into three main units: (1) Classrooms, gymnasium, etc., forming three sides of the court; (2) dining-hall, kitchen and service rooms; (3) two boarding houses. These have been kept in the main building to facilitate central service, apart from which they are entirely self-contained, and aim at a domestic rather than an institutional character.

Accommodation is provided for resident mistresses in the main building, and the headmistress has a separate house. Allowance has been made in the scheme for a future additional boarding house, and also for a large school hall with a fully equipped stage.

The construction of the building is brick throughout, with reinforced concrete floors and flat roofs. External walls are rendered in stucco, with artificial stone dressings, and Cairo stone plinth. The pitched roof will be covered with green glazed tiles. Floors are wood block and tiles, and internal walls are finished with plaster and local made terrazzo tiles. Most of the joinery is to be of teak.

Part of the classrooms on the ground floor have been planned as a kindergarten school, with its own entrance, services, etc. The grounds of the school include a swimming bath, hockey and lacrosse fields, tennis courts, and gardens.

Mr. G. Grey Wornum, F.R.I.B.A., is the architect.

Riddell Memorial Building, St. Thomas's Hospital.

This building is now being erected as a memorial to the late Lord Riddell by Lady Riddell, as a Home and Preliminary Training School for nurses connected with St. Thomas's Hospital. It is situated in Lambeth Palace-road, opposite the hospital, and when completed will form part of a scheme for the development of Paris-street. It should prove to be one of the best equipped Homes of the country.

The exterior is simple in design and appropriate for its purpose. The School is planned upon the lower ground floor, and the courtyard utilised in providing a swimming-bath. The upper ground floor is devoted to recreation- and sitting-rooms, with library, visitors' room, and lecture-hall for meetings and concerts. The upper floors are all planned for sisters and nurses. Materials used for the exterior are sand-faced brick, with Portland stone sparingly used on doorways, string-courses, etc.

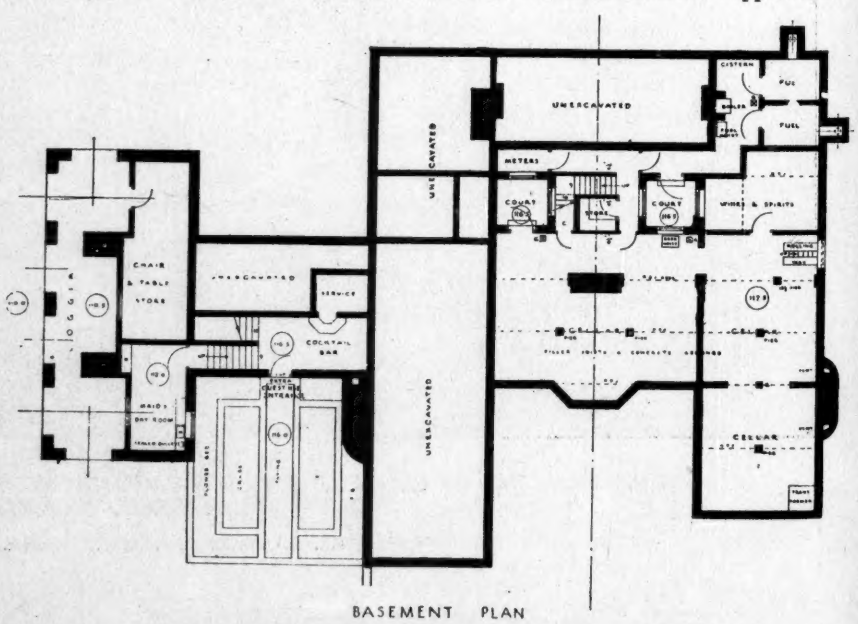
The main contractors are Messrs. Foster and Dicksee, Ltd., of London and Rugby. The architect is Sir Edwin Cooper, A.R.A.

Crematorium for St. Marylebone B.C., East Finchley.

We give elevational drawings and block plan of what promises to be a most interesting conception for the new crematorium now being erected at Finchley for the St. Marylebone Borough Council. The materials used are sand-faced brick and tiles for both the external and internal walls, with stone columns introduced in the Garden of Memory, forming a cloister, the roofs being covered with Roman tiles. The work is well out of the ground, and it is being built by Messrs. Foster and Dicksee, Ltd. Sir Edwin Cooper, A.R.A., is the architect.

Specialists and Sub-contractors.

The names of the specialists and sub-contractors associated with the work described in these pages will be found on page 220 in the Advertisement Supplement.



BASEMENT PLAN

THE DRUM INN, COCKINGTON, SOUTH DEVON.

SIR EDWIN LUTYENS, R.A., P.I.A.A.S., Architect. (See page 121.)

Gatton Park, Reigate, Surrey.

Although views of this house, the seat of Sir Jeremiah Colman, Bt., have been given before in this journal, we publish a recent photograph of the west front that conveys the spirit of new Gatton in its old setting. The contractor was Mr. H. L. Lacey, of Leatherhead, Sir Edwin Cooper, A.R.A., being the architect.

New Building, St. Catherine's Society, Oxford.

This new building, opened by Lord Halifax, Chancellor of the University, on October 6 last, stands on an important site, set back from St. Aldate's. It is dominated on the north by the mass of Christ Church, and the memorial garden and trees of the Broad Walk give it a fine setting. It forms an important landmark to those entering Oxford from the south. In designing the building, every care has been taken to maintain the view of Christ Church and the trees, and it was this which dictated the open planning and the wide diagonal composition. The building has been kept long and low and is built of materials essentially right for Oxford —Bladon walling, Clipsham stone dressings, and Cotswold stone slates. The ground in front remains to be dealt with, and it is to be hoped that the piers and railings of the memorial garden will be continued down to Floyd's-row, and that a fine garden will be laid out. Mr. Hubert Worthington, F.R.I.B.A., of Messrs. Thomas Worthington and Sons, is the architect.

The main entrance faces St. Aldate's, and a balcony over the deeply recessed door displays St. Catherine, supported by angels, in gilded wrought iron. To the right of the entrance is the dining-hall, a lofty room lit by tall narrow windows on east and west, panelled in oak, and with an oak roof. The furniture is designed by the architect. The kitchens and porter's house are in a low wing off the hall. From the entrance hall a staircase leads to the senior common room and large lecture-room on the first floor and continues up to tutorial rooms on the second floor. A pleasant corridor on the ground floor leads to a circular stair, with the junior common room and senior tutor's room adjacent. The former room is panelled in teak and furnished in blue. Above is the library, containing some 10,000 volumes arranged in six reading bays with a balcony overlooking Christ Church. The censor's room is opposite the library. The senior common room, over the entrance hall, is a comfortable room, with a superb view of Christ Church, and a balcony overlooking St. Aldate's. It has two writing recesses panelled in oak and is furnished in warm tones of red. Practically all the rooms have windows on both sides, so that the whole building seems full of sunlight.

The standard of craftsmanship is high, as is seen by the texture of the walling and the skill of the graded stone slating with its swept valleys, and the excellence of the joinery. The whole building stands on an interesting pile foundation, owing to the nearness of the river and uncertainty of the foundation. The general contractors were Messrs. Wooldridge and Simpson, Ltd.

The "Drum Inn," Cockington.

In the design of the "Drum Inn," Cockington, the problem that confronted the architect, Sir Edwin Lutyens, R.A., P.I.A.A.S., was to design an inn that would give every modern convenience and yet be in harmony with the style of the surrounding buildings. The Cockington Trust, who commissioned the architect, gave him a free hand, not only in designing the building itself, but in the interior decorations and even the furnishings. The building, with its brick base and outer stone terraces and steps, rests quietly on the sloping site, and has the friendliness which is proper for a building of this type. The snow-white walls, the tapered chimney stacks, and broad windows are set off by the sweeping lines of the thatch roof. Inside the same air of quiet friendliness and controlled gaiety is maintained. From the forecourt one enters the saloon lounge, where there is the unusual arrangement of central chimney-breast, with a counter on either side. The furniture in this room, as in all the public rooms, has been designed by the architect himself. Leading from the saloon lounge is a large dining room, in which the prevailing scheme is orange-vermilion. Circular-back chairs in ash are reminiscent of the eighteenth century, without being in any sense copies. The hand of the artist is again apparent in the design of the three electric pendants and four corner brackets. These are tubular lamps of a modern pattern, surrounding a big witch bowl, with cords and tassels. The corner fittings of the exposed hip rafters in this room and in the public bar are designed as heraldic beasts painted in bright colours.

The public bar has also an air of quiet friendliness and unobtrusive distinction. The furniture here is in natural oak and the counter is of mahogany. Doors and window-frames are painted. The same care is properly taken to make this room as invitingly comfortable as the rest of the building. Provision for staying visitors has yet to be made, but a wing is to be added to the extreme left of the plan, and toothings have been left for its attachment. The general contractors were the Sherwell Builders, Ltd.

New Flats, "The Grampians," Shepherds Bush, W.

This building is only one section of a great scheme to provide in this district flats, maisonettes, and bed-sitting-rooms—in fact, accommodation of a class much needed. The completed block illustrated faces the Shepherds Bush-road; other blocks will face Rockley-road, Richmond-road and Addison-gardens. The layout of the scheme is roughly a crescent-shaped formation, extending from Sulgrave-road to Addison-gardens, the block now completed forming a central feature. As will be seen, provision is also made for shops —an essential in a scheme of such magnitude. The plans and the individual plans show the varying accommodation provided, from the single room to those of a greater number. Much ingenuity has been shown in the general planning arrangement of baths, kitchens, and room fitments, providing modern necessities at a low rent. Squash racquets courts are also provided on the garden floor level. The elevational treatment, on modern lines, is striking in its architectural character. Such a problem, where window light is so essential, often gives a monotony to an elevation, but in this instance the general good proportions and balconies give variety. A strikingly bold feature is the main entrance, with its curved shop-fronts on either side.

Sir Aston Webb and Son, and Messrs. Collcutt and Hamp are associated as architects in the scheme. The general contractors are Messrs. Gee, Walker and Slater, Ltd.

"Westminster Gardens," Marsham-street, S.W.

This block of 62 family flats and 10 maisonettes has been designed to eliminate the interior well and provide every flat with at least two aspects. Large windows and in many cases French windows—opening on to roomy balconies—bring the maximum amount of light and sun into the spacious and well-proportioned rooms. The living rooms and dining rooms are so designed that if necessary they can be thrown into one large reception room, in many cases having a total length of some 40 feet. Particular attention has been paid to soundproofing the walls between adjoining flats and between reception rooms and adjoining bathrooms and toilets, and to eradicating all possible sources of noise throughout the building. There are fifteen different designs of flats and a range of nine floors, the upper floor giving extensive views of London.

Invisible heating panels have been installed in all rooms and throughout the public halls and main staircases, ensuring an even and sufficient temperature throughout. The tenants are able to regulate the amount of heat in each room of their flat. Kitchens are fitted with stainless steel double compartment sinks, built-in dressers and cupboards, and even a heated towel rail. A constant and reliable supply of hot water is available day and night. Refrigerators are built-in in every flat, and the larger flats have pantries fitted with sinks and cupboards. The bathrooms are cork floored with tiled walls, and shower bathrooms are provided in many of the flats. Electric clocks are fitted in each hall, while additional clock points are provided in the living rooms, studies, main bedrooms and kitchens. Wireless points connected to a main aerial are installed in every living room, affording the tenant reception in accordance with the range of their radio. Electric fires are fitted in the majority of dining rooms, and all the best bedrooms, while the living rooms have open fireplaces. Additional bedroom accommodation for servants is provided in the building. Ample wardrobe cupboards, heated linen cupboards and coat cupboards have been provided in every flat. Two fast passenger lifts serve each flat and in addition a service lift enables the tradespeople to come up to the service door of the flat. Letter chutes from each floor have been installed. On the ground and first floors are 10 maisonettes, ranging in accommodation from three reception rooms, four bedrooms, two bathrooms and kitchen, to two reception rooms, three bedrooms, two bathrooms, kitchen and pantry.

The general contractors were Messrs. Gee, Walker and Slater, Ltd. Messrs. T. P. Bennett, F.R.I.B.A., and Son, are the architects, and Messrs. Gardiner and Theobald the quantity surveyors.

Alterations at the Jockey Club, Newmarket.

The work of reconstructing the rooms of the Jockey Club was begun in 1933. It consisted of removing the 1840 frontage in the High-street and the remodelling of the premises. One of the essentials was that the old coffee room should be retained, and that the original courtyard should be restored. The work, therefore, was governed by conditions which determined the formation of the wings, as well as the alignment of the frontage. The works were completed in 1935, but a disastrous fire occurred which gutted the older part of the rooms facing the gardens at the back; this entailed further remodelling, which was completed in the summer of 1936. Messrs. Dove Bros., of Islington, were the contractors for the first portion of the work, and the contract after the fire was carried out by Mr. H. Holland, of Newmarket. The chief feature of the work has been the employment of craftsmen throughout. Catalogue goods have been avoided. The carved stonework was specially modelled by the late Mr. P. G. Bentham, R.B.S.

Professor A. E. Richardson, A.R.A., and Mr. C. Lovett Gill, F.R.I.B.A., were the architects.

New Store of Messrs. D. H. Evans and Co., Ltd.

Messrs. Evans' Store in Oxford-street has been rebuilt, and will be open to the public at the end of February. The old store had a long frontage to Oxford-street in two buildings, known as the east and west blocks, and separated from one another by Old Cavendish-street. The west block was part of an island, about half of which was occupied by Messrs. Evans. The whole of this island of about 40,000 sq. ft. is now covered by the new building, and the east block will be entirely vacated. The site is almost an ideal one for a drapery store. The main front is in Oxford-street, the other boundaries are Old Cavendish-street, Henrietta-street and Chapel-place. The building has been erected subject to the London Building Act "excess-of-cube regulations," which enable the London County Council to impose special conditions of consent on all such items as escape in case of fire, fire-fighting equipment, height above pavement level and general construction. In this case, the right to impose conditions has been exercised with moderation and due consideration to the owners' requirements.

Full advantage has been taken of the recent amendments made in the London Building Act. The height restriction which limited

trade buildings to a maximum height of 80 ft. has been removed, and this building has two stories above that level. The floor area of each story approximates 40,000 sq. ft., without cross walls. A projecting canopy protects the windows on the three main frontages.

Escape staircases are planned in accordance with the new regulations, which require 6 in. of staircase for every 1,000 sq. ft. of site area. This building has four staircases; two are 6 ft. wide and two are 5 ft. wide—a total of 22 ft. The previous regulations would have required 40 ft. Dry rising mains are substituted for the hydrants which were previously required. The building is probably the most fire-resisting drapery store ever erected in London or elsewhere. No structural timber is used, the floors are solid concrete, and all steelwork is cased to accord with the Third Schedule to the Building Act. Sprinklers and fire alarms are installed throughout.

Construction and Use.—The building is a steel-framed structure, cased externally with Portland stone up to 80 ft., and above that level with reconstructed Portland stone. The windows are steel casements opening inwards. The ground floor (shop-front level) is faced with grey granite, with architraves of a lighter colour. The approximate dimensions are :—

Site—40,000 sq. ft.
Length—Oxford-street ... ... 136 ft.
Cavendish street ... 300 ft.
Henrietta-street... ... 140 ft.
Chapel-place ... ... 300 ft.
Height—80 ft. from pavement to parapet and two stories above (100 ft. in all). There are nine stories above the street level and a basement and sub-basement.

The building is fitted for drapery to the fourth-floor level. The fifth floor is occupied by a restaurant, seating about 1,000 persons. The two stories above the 80 ft. level and the basement and sub-basement are used for administration.

Escalator Hall.—A special feature internally is the escalator hall. The public are here offered three alternative means of ascending to the upper floors: high-speed lifts, "up" and "down" escalators, and staircases. The topmost trading floor can be reached from the street in 1½ minutes. All the floors are approached from this escalator hall, and the ease of access has had the effect of equalising the trading value of the floors. In a general way the trading value of a floor tends to decrease in proportion to its height above the street. The escalator hall appears to have solved one of the most difficult problems in store planning.

Heating.—The heating is by a simple system of steam-heated concealed ceiling panels, situated within a few feet of the outer walls and supplemented by warmed air driven into the various floors from four shafts. The temperature of each floor is regulated by thermostatic control, and every panel is controlled by a separate valve.

Air Conditioning.—Fresh air is drawn from the exterior at the first-floor level of the building, passing through a self-cleaning filter and thermostatically controlled preheater before entering the washer chamber. In the washer chamber the air passes through a fine mist of water, obtained by two banks of sprays, the cooling effect during the summer being in the region of 10 degrees. From this point the air is delivered to vertical shafts for distribution to the various floors.

Lighting.—The showroom fittings are of special design, and, with the exception of the ground floor, are partly recessed in the ceilings. They are built up in metal framework, glazed with streaky opal glass or flashed opal. The illumination intensity obtained on the showroom floor varies from 14 candle feet on the second floor to 25 candle feet on the ground floor.

Period of Erection.—The building has been erected in two sections. The clearing of the northern section was begun in January, 1935. The foundations were begun in April, and the section was open to the public in February, 1936. Demolition of the second section was begun in March, 1936. The operation presented considerable difficulty, as the building was a comparatively modern steel frame, and included a main staircase of reinforced concrete, which had to be burned and broken until reduced to fragments. The site was cleared in June. The steelwork was completed by the end of October, and the building will be open to the public by the end of February, 1937.

A building of 4,600,000 cu. ft. has been erected in nineteen months of actual building time. It is thought that a speed record has been made, and much credit is due to the general contractors, Messrs. James Carmichael (Contractors), Ltd., and the steel contractors, Messrs. Moreland, Hayne and Co., Ltd., for the organisation which has enabled this to be accomplished.

Mr. Louis Blanc, L.R.I.B.A., is the architect.

Battersea Grammar School.

This scheme embraces new buildings and playing fields to provide facilities for the secondary education of 560 boys, also a 5-room cottage for the school-keeper, with additional accommodation for laundry and kitchen and ground staff lavatories. A south-easterly aspect was desired for the classrooms, and this has dictated, very largely, the position of the buildings on the site. The main building was planned on three floors to economise space and thus leave as large an area of the site as possible free for playing fields.

Construction.—The gymnasium and other single-story buildings are of ordinary brick construction. The main building has a reinforced-concrete frame with reinforced-concrete floors, roof and staircases. The frame supports 11-in. hollow walls, but the external wall to the corridors and staircases on the north side is in 14-in. self-supporting brickwork. The roofs are covered with a 3-ply bitumen and felt roofing on a layer of insulation board. Partitions are in 4½-in. cellular Flettons.

Elevational Treatment.—The elevational treatment is very simple and is carried out in brick, the ground story being a light-brown colour and the remainder a pale-golden colour. Dressings are in a cream reconstructed stone, and the flat roofs over classrooms, corridors and staircases are cantilevered out to form eaves. The eaves and the narrow piers between windows, which are faced with rustic Flettons, are treated with "Stic B" of a cream colour for the eaves and a pale burnt-sienna for the piers.

Windows are metal in deal frames with teak cills. At first-floor level on the north and east elevations are six "flower balconies" with wrot-iron railings. The boxes, in which flowers can be planted, are faced with orange tiling set with wide vertical joints. Similar tiling has been used for the surrounds to the boys' entrances from the two playgrounds. Wrot-iron grilles have been fixed across the six small windows to the assembly hall and to the north and south entrance doors. The entrance gates and railings are of wrot-iron, and the school crest has been carved on the Portland stone caps of the gate piers.

The Plan.—The teaching rooms are planned on either side of the central block, containing the cloakrooms and lavatories on the ground floor with the assembly hall above, in order to distribute the traffic, and three staircases provide simple vertical circulation and means of escape. All the science rooms are in the east wing on the first and second floors. The gymnasium and manual training workshops have been designed as single-story buildings entirely separated from the main building in order to segregate the noise. The classrooms are protected from noise created in the assembly hall by the corridors.

Internal Finish.—The assembly hall and the headmaster's room are panelled in Australian walnut with recessed ebonised fillets; the library and dining hall have oak dadoes, whilst the classrooms have dadoes of oak-faced plywood with birch cappings and skirtings. All walls are plastered with the exception of the science laboratories and manual training workshop. The walls of the main staircase have a cement "cold glaze" finish. Corridors and east and west staircases have "Granwood" dadoes, and "Granwood" floors have been used for the corridors, science rooms and kitchen. Classroom floors are of Canadian birch blocks. A special floor, being a mixture of cork and rubber, has been used in the showers room in connection with the changing rooms. All laboratory benches, etc., are of Douglas fir, with teak tops to the fittings in the chemistry laboratory.

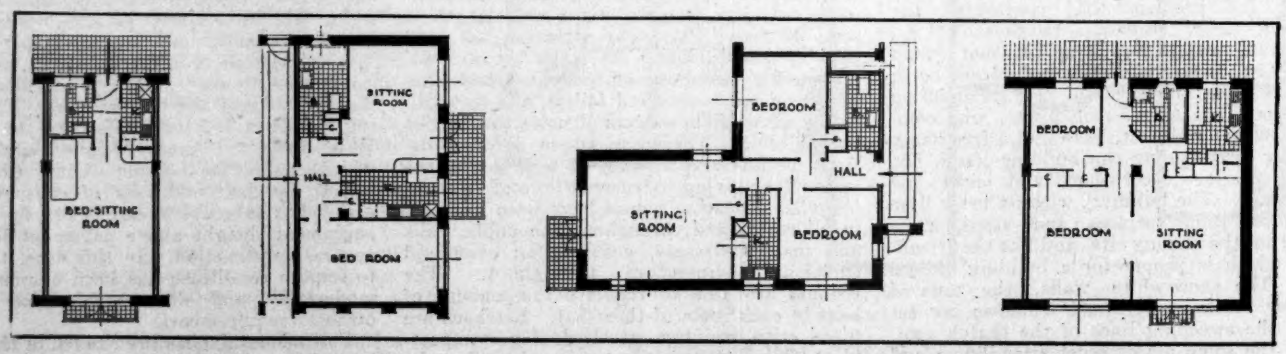
Services.—Heating is by a low-pressure accelerated hot-water system, with coke-fired boilers, operating pressed steel radiators. A separate coke-fired boiler supplies hot water to all parts of the building. Natural ventilation is provided to all rooms, with cross ventilation to all teaching rooms. In addition to the usual lighting and power installation, a separate system of experimental D.C. plug points has been installed in the science rooms, and wireless plug points and a combination system of call bells and fire alarms have been provided. A large internal duct on the east side of the main staircase accommodates heating, lighting and water mains, from which branch mains distribute at each floor level.

The buildings were constructed under a single contract, including roads, playgrounds, boundary fences, etc. The cost, excluding the site works mentioned above, but including laboratory and other fittings, was 1s. 1¾d. per cube foot. The contractors were Messrs. Henry Knight and Son, of Tottenham.

Mr. J. E. K. Harrison, A.R.I.B.A., is the architect.

New Technical College, Gloucester.

The winning design in the competition for new technical college, Gloucester (the full result of which was given in our last issue)



"THE GRAMPIANS," SHEPHERD'S BUSH, W. Type plans of Individual Flats. (See page 121)

is illustrated this week. The architects are Messrs. Hickton and Madeley, AA.R.I.B.A., in association with Mr. Geoffrey W. Salt, A.R.I.B.A.

Following is the winners' report on the scheme :—

The principal considerations which have influenced us when preparing our design are the following :—

(1) The desirability of obtaining a compact plan with a complete traffic circulation to all departments; (2) a simple plan lay-out based on standard units; (3) the desirability of arranging the three entrances required so that direct access from Brunswick-road is obtained and a well-balanced elevation provided; (4) an assembly hall with direct approach from the entrance hall and one capable of being used as a single unit for public exhibitions or similar purposes; (5) administration offices adjoining the main entrance hall and yet clear of the general working circulation; (6) cloakrooms conveniently near to students' entrances, and adequate lavatory accommodation arranged on each floor; (7) all departments planned as self-contained units; (8) a workshop block arranged as a single-story building conveniently near to the male students' entrance, while not causing annoyance to other departments on account of noise or fumes.

The buildings would be constructed with a steel framework supporting reinforced hollow tile floors and flats; the external walling would be in facing bricks, with a sparing use of reconstructed stone. The internal partitions generally would be of light terra-cotta block construction, while general finishings, etc., would follow normal practice for this class of building. The acoustics of the main hall have been considered when preparing the sections, and special acoustic material would be employed to ensure satisfactory results. Natural ventilation would be used throughout, except in the assembly hall, which would be provided with ceiling grilles connected by trunks to electric fans. An accelerated low-pressure hot-water system would be used, with mechanically fired coal-burning boilers.

The Rebuilding of Sackville-street, W.

It is proposed to rebuild the Piccadilly frontage from Sackville-street to Albany with the building now illustrated. The eastern side of Sackville-street is already rebuilt, so that when this western side is done the Piccadilly end of Sackville-street will be completed. Mr. George J. Skipper, F.R.I.B.A., has prepared the design for the Sutton estate. The ground floor will be shops, and Messrs. Wing and Co., who have been established at No. 44 since 1777, will be re-established at the new No. 44, and Messrs. Arlington will be re-established at No. 42. Messrs. Yates, Cook and Darbyshire are the architects for the lessees.

Proposed Group of Cottages in Sussex.

These cottages are designed for an estate which is in the process of development in rural Sussex. They represent an attempt at a plan which is equally suitable for the needs of the rural labourer or for townspeople week-ending in the country. Ample garden space is allocated to each, and the plan shows the grouping in relation to the road. The cottages will be built in brick with pantile roof, and the interior treatment is very simple and homely. The architects are Messrs. Baillie Scott and Beresford, FF.R.I.B.A.

House near Bognor.

This house is to be built to suit a specially eccentrically shaped plan to obtain the maximum amount of view and sunlight. It is to be built right on the sea-front, in brick, and the semi-circular wing on the front will be pebble-dashed. The architect is Mr. Hubert Lidbetter, F.R.I.B.A.

The Royal Gold Medal for Architecture.

Intimation has just been received by the R.I.B.A. that His Majesty the King has been graciously pleased to continue the award of an annual gold medal for Architecture.

GENERAL NEWS

Professional Announcement.

Messrs. Lanchester and Lodge, FF.R.I.B.A., 19, Bedford-square, W.C.1, are taking into partnership Mr. E. E. Davis, A.R.I.B.A., who has been an assistant to the firm for the past nine years. The designation of the firm will, however, remain as hitherto, *i.e.*, Messrs. Lanchester and Lodge.

Honour for Greenock Architect.

Mr. John Gillespie, L.R.I.B.A., who is on the architectural staff of Greenock Corporation, has been honoured by the American Geographical Society. On invitation from the Council of the Society he was elected a Fellow.

Cape Town University Chair in Architecture.

Mr. L. W. Thornton White, A.R.I.B.A., Vice-Principal of the Architectural Association School of Architecture, London, has been appointed to the Chair in Architecture at the University of Cape Town. Mr. White has had a distinguished career. He won the Ashpitel Prize in 1926, was Soane Medallist in 1928, and gained the Henry Jarvis Studentship in the same year. He will carry with him the good wishes of all his professional friends.

COMPETITION NEWS

An Elementary School, Watford.

In a limited competition for an elementary school at E. Barnet for Herts C.C., to accommodate 640 children, the design of Messrs. Dawe and Carter, F. and A.R.I.B.A., 83, High-street, Watford, was placed first. The designs are on exhibition at the Education Office, Hertford.

Hertfordshire Police Stations.

The architectural (limited) competition of the Herts C.C. for police stations, etc., at Watford and Bishops Stortford has been decided as follows :—

Watford Police Station : 1st, Messrs. S. N. Cooke and W. N. Twist, FF.R.I.B.A., Sunbuilding, Bennetts Hill, Birmingham, 2.

Bishops Stortford Police Station : 1st, Messrs. Vine and Vine, AA.R.I.B.A., Tudor Chambers, Station-road, Wood Green.

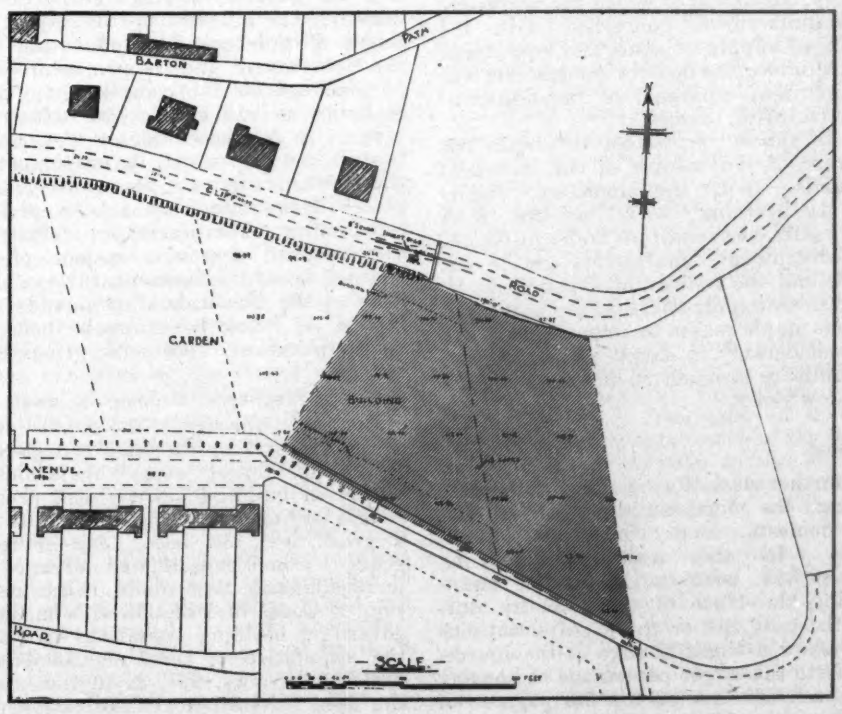
The assessor was Mr. H. V. Lanchester, F.R.I.B.A. The drawings and designs are on exhibition at the Building Centre, 158, New Bond-street, W.1, until January 16, with the exception of January 11.

Cottage Hospital, Dawlish, Devon.

The Building Committee of the Dawlish Cottage Hospital invite architects of British nationality practising within 200 miles of Dawlish, Devon [London architects are thus eligible], to submit designs in competition for the new hospital buildings proposed to be erected on site between First-avenue and West Cliff-road. Mr. Leslie T. Moore, F.R.I.B.A., is assessor, and premiums of £100, £75 and £50 will be paid. Designs are to be addressed to the Honorary Secretary, Building Committee, Dawlish Cottage Hospital, Dawlish, Devon, by April 28. Any questions must be addressed by February 6 to the Honorary Secretary, from whom conditions and site plan are obtainable on deposit of £1 1s.

The following are points from the Conditions : The site plan [reproduced] clearly shows the boundaries, the building lines, the levels of the ground, the position of sewer, etc. Gas and water mains exist in First-avenue, also electric cables. Competitors are recommended to visit the site. The ground to the west of the site will be retained as permanent open space. The road to the south of the site will be widened and made up. No allowance need be made in this connection in the estimate of cost. The buildings should comply with the by-laws and regulations in force in Dawlish relating to buildings, etc. Particular attention should be given to sound insulation of floors and walls. For the external walls some form of cavity wall construction is deemed desirable. The selection of materials is left to competitors. The building should be of fireproof construction, excepting pitched roofs. The Committee do not disfavour flat roofs, particularly in view of possible future extensions. Competitors should observe strict economy in planning design and construction. The cost of the building is a factor that must be carefully borne in mind. The building should be planned so that the number of beds can be easily increased up to 50 per cent. of possible future extensions.

The schedule of accommodation requires a female ward of 8 beds; male ward, 8 beds; children's ward, 4 beds; 4 private wards (single rooms) each 140 ft. super (not near children's ward), 4 beds; and 1 isolation observation ward (single room) of 140 ft. super, 1 bed—a total of 25 beds. In addition to ward service rooms, etc., an operating theatre suite, rooms for administration (ward-floor level), kitchen, etc. (ward-floor level), and staff accommodation (upper floor) is required.



COMPETITION FOR COTTAGE HOSPITAL, DAWLISH; Site Plan.

THE BUILDING INDUSTRY IN 1937

By H. B. BRYANT

So far as the volume of trade for the building industry in 1937 is concerned, there is every reason for the majority of the sections of the industry to be satisfied and for the remainder to be at least optimistic. The types of work which the industry is likely to be called upon to execute may, however, be somewhat different from those of the immediately preceding years.

Building and National Defence.

For the past three years there has been a predominance of domestic building of all classes. The work in the forthcoming year, and possibly for a few years hence, is likely to tend to military and defence types of structures. The forthcoming year will, for instance, be the first full year of the Air Ministry's expansion scheme, and it will, apparently, synchronise with the beginning of the increased building work required by the War Office and the Admiralty. This means an increasing demand on the civil side for work for which the Office of Works is responsible, so that from the point of view of Government requirements the industry may look forward to a fairly full programme of work.

The development of permanent aerodromes in all parts of the country and increased naval and military accommodation will impose on some, possibly on many, local authorities the necessity to provide certain public services for which they are statutorily responsible, namely, roads and sewers, and public utility services such as water, gas and electricity. To the extent to which the local authorities are not responsible for public utility services, those public companies which are may, in some cases, also be called upon to increase their services which might, in many respects, mean building operations.

So much for the increased national expenditure on building arising from the national defence measures. There is, however, a likelihood of a further direct influence affecting the trade of the industry, namely, the extent to which the multitude of manufacturers concerned with the increased supply of arms and equipment needed under the defence programme will require new, enlarged, or reconditioned manufacturing premises.

It is almost impossible to obtain the measure of the volume of the increased demands upon the industry during the forthcoming year, arising from direct public expenditure under all heads, by Government departments on the one hand, and the incidental expenditure by Government contractors on the other, but there is ample reason to believe that it will be considerably in excess of the average expenditure for such purposes during the past few years.

Housing.

A further class of work likely to increase during the forthcoming year is that on domestic and commercial structures. In the realm of housing, which has been a means of maintaining the trade of the industry during the past two or three years, activity may show a slight change at the source. Hitherto the larger percentage of housing has been constructed for the purpose of sale to those members of the general community who, for one reason or another, are able and desire to purchase. There appears, however, to be a need for an increased mobility among the population arising to some extent from increased armament manufacture which has limited the field of medium-priced house purchase, and the position may well be reached when house building for permanent investment, as apart from sale to owner-occupiers, will be developed during the coming year.

Some, at least, of the decline in the official figures of the number of houses for which plans are passed can be discounted as an indication of any trend in the industry, for two reasons. In the first place, the figures on which they are based, while presenting a broad indication, are not necessarily conclusive, because the whole of the London area—that is, the area of the London County Council—is excluded. In the second place, there is no certainty that the 146 local authorities who make those returns could, on examination, be regarded as strictly representative of the whole country so far as house building is concerned. It is one of the economic tragedies of our time that the statistical services maintained by the Government in so many directions are confined so very largely to the administrative aspect of the subject matter of the statistics, and so very little statistical information related to the fundamental sources of trade is gathered and made available specifically to meet the needs of industry, and not as a mere by-product of administrative procedure.

Statistical and Economic Information.

Concerning conditions which are likely to prevail inside the industry, many of the problems to which the industry has given increasing attention during recent years still await solution. The first point to be considered in this relation is the very important matter of the paucity of statistical and economic information in and about the industry, which is increasingly becoming an obvious source of weakness in relation to its ability to control its general trading and economic destiny. The industry in this respect still has a duty before it of educating both the Government and its own members as to the need for the compilation of such statistics as will enable the industry to play, with a greater degree of certainty than it can at present, its proper part in the economic affairs of the country, and to place its operations on a basis of long-term policy. The play of the industry in the general economic system of the country is, at the moment, far too much akin to the principle of trial and error, instead of being based upon the scientific application of economic principles.

Codes of Practice v. Building By.laws.

The vexed question of the public control of the industry by the mass of legislation regulating almost every operation involved in building activity still presents a field crying out for progress, although a great deal has been done in recent years. Some consolidated advance has unquestionably been made in the institution of Codes of Practice as a means of governing building operations in lieu of the stipulation of rigid requirements in building by-laws, but, as in the case of the need for statistical information, both the Government of the country, particularly the larger local government authorities, and the industry itself, require a large measure of education. One point in particular which it is thought the industry must press for in the forthcoming year in this relation is the entire abolition of the building by-laws of rural district authorities. Under modern conditions there is in many cases very little justification for separate by-law-making powers being vested in urban authorities. There is absolutely no justification for giving them to rural authorities, having regard to the type and standard of local government administration now exercised by county authorities.

Sectionalisation in the Industry.

The vexed question of sectionalisation within the industry is a matter which should, in the new year, receive an increasing amount of attention. There has undoubtedly been an increasing tendency for sectionalisation to develop within the industry, not only by the formation of entirely new organisations, representing hitherto unorganised interests, but also by the setting up of new bodies sponsored by some existing organised section. Such forms of sectionalisation not only develop the tendency to function increasingly within watertight compartments, but in some cases have at least latent possibilities of a sinister character owing to the danger of the long-term interest of the industry being lost sight of in a welter of diverse sectional interests.

The number of new Associations, Federations and Councils, each conceived to press a particular sectional interest, which have been formed in the industry during recent years is the measure of the bureaucracy the industry is setting up. It may be that unless some effective measure can be taken, the industry, while freeing itself from one set of masters, will merely be putting itself under the influence of another set of bureaucrats having an even more direct vested interest in their own administration.

The Need for Co-operation.

There is another and better side to the picture of sectionalisation, however, namely, that much of the evil which unquestionably arises from sectionalisation will be neutralised if the policy underlying the administration of the sectional bodies is toward greater centralisation in matters common to every section of the industry. In other words, if the main purpose of the increasing sectionalisation is to obtain as it should a greater volume of trade with increased amenities of trading for all concerned, then increased sectionalisation, in spite of its disadvantages, may indeed be justified; but if the main object is merely to intensify internal competition, the resulting trading conditions can only be described as economically suicidal. On a scientific examination of the conditions within the industry and the purpose for which the industry functions, namely, public service, there can be found very little justification indeed for the organisation of fierce internal competition, because the make-up of the industry is such that whatever desirable ends may be served and obtained by internecine competitive effort can be obtained in an ever greater degree without it by organised effort to the common end of increasing the trade of all sections, and not, as the present system appears to do, increasing the trade of one section at the expense of another. In other words, there is no scientific economic reason, or justification for, say, the manufacturers of two materials serving similar purposes spending large sums of money seeking to

increase their market at one another's expense, or merely to protect their market, thus increasing the price of that material to an uneconomic level, with a consequent tendency to increase the cost of building unnecessarily, when what they both desire, namely, increased trade, can best and most effectively be obtained by co-operation for the purpose of increasing the total market for all. There can be no doubt that public attention will increasingly be focused upon the activities of the building industry during the forthcoming year, and one of the most obvious features of the industry open to criticism at the present time is the expensive competition among sectionalised interests under conditions which can be avoided to the advantage of all and, above all, of the public at large, by wider co-operative organisation. In so far as the future position can be judged, having regard to the conditions prevailing outside the industry and the increasing urge for reform being engendered within it, representative leaders of all branches of the industry have a most difficult time before them, and it behoves every section and member of it to support and assist those leaders by every means in their power, and in particular by applying locally the policies leading to a wider community of interests formulated by the representatives of the whole industry. Only so can the building industry hope to be regarded as an industrial unit taking its due place in the industrial and economic policies of the nation.

THE BUILDING INDUSTRY AND THE PUBLIC

NEED FOR INCREASED CO-OPERATION AND RATIONALISATION WITHIN THE INDUSTRY

It will, we think, generally be admitted that one of the benefits which the building industry gained from the financial crisis of 1931 was the formation of the Building Industries National Council. The work that Council did, and is still doing, in keeping the position of the building industry as a "key" industry well before both Government and public is well appreciated, though not, perhaps, as widely in the industry as it deserves. Memory is short, and the present intensive building operations have been sufficient to render the industry forgetful of the need for constant support of the Council in the latter's attempts to achieve that degree of organisation and rationalisation of the component sections of the trade which truly enables it "to speak with one voice."

During the last few weeks there have been two reminders of the importance of organisation in the building industry which must not be forgotten. One is contained in the leading article of *The Times* of December 30, and the other is a more brief, but even more pointed, reference in the Commercial Review of the *Manchester Guardian* of December 24.

The following interview with Mr. H. B. Bryant (Secretary, Building Industries National Council) elucidates certain important points raised. The essential points from *The Times* and *Manchester Guardian* articles are given below.

The Cost of Building Materials.

I took first (writes our representative) the question of the following paragraph which appeared in the *Manchester Guardian*:

"There is behind the scenes in the building trade a good deal of unrest on the question of the cost of building materials. The operatives see the various manufacturers pressing the merits of materials by all the arts of modern propaganda, and regardless of the interests of the industry as a whole. There are, for example, at the present time violent duels in progress between those who manufacture and distribute steel and concrete, bricks and cement, lead and copper, paint and non-paint finishes. The various price-fixing associations are their own masters, and at the present time the price of practically every material is mounting, some rapidly, some slowly. The operatives point out that their wages are drastically controlled by a national council. Not a halfpenny can be added to a bricklayer's weekly wage without the permission of the central body, but there is no central control over the prices of building materials. The issue is becoming acute owing to the increasing demand for defence building, and the Government are likely to be pressed either to set up some central organisation to control the price of building materials, or else later there may be a movement in the direction of free markets."

Mr. Bryant's comments on this were as follow:—

"It is clear that this matter touches upon a point of organisation, and to a large extent refers to a matter of fact. The article shows that enlightened opinion in this country is beginning to pay increasing regard to the play of the building industry as perhaps the greatest vitalising force in our economic and industrial system. If that view of the importance of building is accepted, as it must be, then the industry as a whole must give early consideration to the point involved, with a view to dealing with whatever weaknesses in its organisation are found to exist, or, alternatively, to giving a reasoned reply to the points raised.

"What steps should be taken to bring this about? First, an examination might be made of the position with a view to ascertaining the extent to which any weaknesses found to exist affect the economic position of the industry. *Prima facie*, there appears to be a case for examination as to the need for the incorporation of some element of order with a view to rationalisation in a field which at the present moment is largely unordered. The building industry has always benefited by the strong organisation of its major functional elements, but with the present plethora of insular sectional bodies each possessing some particular and, in many cases, selfish interest, there may well be a danger that the interests of the industry as a whole, and especially its long-term interests, may be lost sight of. Most certainly, far too much energy appears to be expended in certain directions upon what might not inaptly be termed "jungle methods" concerning matters calling to be dealt with by simple methods of economic precision. Unless something is done by the industry it may well be that an adverse conception of the economic efficiency of the industry may be engendered in the public mind. This must be avoided in the industry's own interests."

Building: A "Key" Industry.

Following are extracts from *The Times* leading article of December 30:—

"The Ministry of Health issued yesterday the housing returns for the year and for the half-year ended on September 30, 1936. The figures show that the number of houses built during the full year is the highest ever recorded, and that upon the date mentioned over one-third of the houses required to complete the slum-clearance campaign had been erected. This is a magnificent achievement, and shows what can be done when adequate legislation is backed by zealous administration and by enlightened public opinion. . . . This moment, when municipal building seems to be assured of a large output for at least several years, is timely for considering the future of house building as a whole and of the building industry in general. The building of houses to sell, and still more to let cheaply, is recognised to be an essential social service. It is therefore important to examine the question whether it can be maintained upon anything like the recent impressive scale, and, if so, with what social and economic consequences. Moreover, it is generally recognised that the prosperity of the building industry is a substantial and probably an essential part of the basis of any general industrial recovery in so far as that recovery consists in a ready and large demand for capital goods. It is therefore important to examine how long the boom conditions now prevailing in the industry are likely to continue. . . . As regards house building, there is very little doubt that output can be maintained on a satisfactory scale. . . . The rise in prices has not yet gone so far as to constitute a serious danger, and some rise in commodity prices has been generally recognised to be healthy because it assures a living to producers, who themselves are an important section of the consuming public. . . . But the possibility that the dangers mentioned will arise in future should be examined in good time so that additional measures may be taken to avert them if necessary. This examination becomes the more necessary because of the other calls upon the building industry which are now increasing. The answer to the second question—What are the prospects of the building industry in general?—is that they are uncommonly favourable. . . . To sum up, the building industry seems now to be on the crest of a wave, and all concerned must co-operate to see that this wave is the forerunner of a smoothly advancing tide of prosperity and not the herald of broken and troubled waters."

With reference to this article, Mr. Bryant made the following comments:—

"Here we have an indication of the growing belief in the need to instruct opinion as to the importance of the building industry in relation to the national economic structure. This puts a responsibility upon the industry to see that the part it plays in the system is as efficient as possible. The article, which quotes "The Building Industries Survey," is also an indication that the machinery instituted by the industry in the form of the Building Industries National Council is fulfilling its function as the authentic central source of economic and public information concerning the building industries."

Mr. Bryant emphasised, however, that the fact that a leading daily paper had acknowledged the position of the Council as the fountain-head of the industry's economic information and research activities, placed a heavy responsibility on the industry in view of the position it holds among the trade and economic forces of the country. "That responsibility," he declared, "is to ensure that the Council is both fully representative of the building industries and well armed to give an effective and united lead to public opinion."

The Building Industry and Rating.

Following is an extract from a letter by Mr. Sydney Tatchell, F.R.I.B.A., in *The Times* of December 31.

"*Your leading article . . . and the timely correspondence appearing in your columns under the above heading do not touch upon what is probably the most important trend in our system of local government—namely, the extent to which the financial burden of the system has come to fall almost exclusively upon the products of the building industry. The position as shown by the figures for* 1935 *is that, of a total rateable value of* £290,000,000, *excluding Crown property, approximately* £275,000,000 *represents the value of buildings on which rates are levied. As a result, buildings contributed* £156,000,000 *during the year for the finance of local government out of a total income from rates of* £163,000,000. *Such a heavy and disproportionate burden falling upon the occupiers of a particular form of property cannot be defended on economic grounds, and is manifestly inequitable.*"

As regards this matter, our representative asked the question: "Has the present system of rating, in your view, a hampering effect upon building?" Mr. Bryant replied: "Certainly it must have, and the extent to which it hampers the construction of new buildings is the measure of the constriction of trade suffered by all the dependent industries. Moreover, the principle of the incidence of the system is fundamentally inequitable in that it is not related to the services rendered by local authorities to a building. Nor is it related to the ability of the occupier of the premises to pay.

"The revision of the present system calls for the consideration of the very large number of interests involved, but any new system should have definite relationship to the extent to which the services supplied by local authorities are required by particular premises and also to the ratepayer's ability to pay. Neither of these two points are secured under the present system. There is also the fact that the costs of public services at present fall almost exclusively upon one class of property—buildings.

"Any equitable system should in essence be based upon the productivity of property in terms of annual income, not in terms of often arbitrary capital value. Moreover, the present system is based upon the assumed necessity to have as assessing and collecting agents 1,500 local authorities with divergent valuation assessments. Those 1,500 authorities collect approximately £163 millions annually in rates, the cost of collection being much greater than in the case of, say, income tax, based on factual valuations. It is largely as a result of this fact that the trend of enlightened public thought is toward a national, or, at least, a regional basis of local finance framed on principles economically sound and equitable."

RESTRICTION OF RIBBON DEVELOPMENT ACT

SOME NOTES ON A YEAR'S ADMINISTRATION.

A PAPER on "A Year's Administration of the Restriction of Ribbon Development Act was read by Mr. A. T. V. Robinson, C.B., C.B.E. (Deputy Secretary of the Ministry of Transport), at the recent conference at Harrogate of the National Housing and Town Planning Conference.

The Restriction of Ribbon Development Act, began the lecturer, received the Royal Assent in August, 1935, when most Councils had gone into recess. More than a clear twelvemonth had now elapsed and we might try to get some idea of the extent to which practical effect had been given to the expression of public opinion which we might take the Act to represent. It was a commonplace that large blocks of legislation of the last quarter of a century, which had dealt with social services in the wider sense, had given primary powers and responsibilities to local Government bodies, reserving but limited powers to the Central Government. The passing of the Act of 1935 gave highway authorities immediate powers of control over roadside development along 40,000 miles of road. In theory at least this or that Council might have been exercising its powers to the full, while a neighbouring Council had been allowing the Act to become a dead letter, and Whitehall be in total ignorance of the action of the one and the inaction of the other. In theory, perhaps; but in the case of the active Council, the Minister, from the appeals that came before him, could get a very fair idea of what was doing. Those appeals came in very slowly at first; but by October 15, in round figures, the Minister had received 100 of them. Half of them, including some only very recently received, were yet to be decided: a quarter of them settled themselves (the preparation of the statement of case apparently might induce in both parties a spirit of reasonableness); while the remaining quarter had been formally determined by the Minister.

The Minister's Published Decisions.

The statute required the Minister to publish a summary of the facts as found by him and of the reasons for his decision. Those were embodied in the decision letter which was sent to all parties and made available to the Press. It might be of interest to attempt to group some of the Minister's published decisions.

CONTROL OF ACCESS.—In a number of cases* where authorities had refused consent to the creation of new means of access likely to create traffic difficulties and militate against road safety, the Minister had upheld their action on appeal (D.2. Llewellyn *v.* Eastbourne, a new housing estate on A.22; D.3. Biggleswade R.D.C. *v.* Beds, a new housing estate on A.507; D.12. Cresswell *v.* Stockport, house and petrol station on A.6). The Minister upheld a condition that the entrance to a new housing estate should be widened by splaying fence lines 30 ft. in each direction to afford an adequate sight line, notwithstanding that the applicants did not own the land on which the splays would be constructed. He considered it essential in the interests of public safety that the junction formed by the connection of any new street with A.332 should be so designed as to afford adequate visibility for a reasonable distance in all directions, and that steps should be taken to prevent the junction from being obscured by buildings, trees or shrubs at the corners. (D.11. Watson *v.* Bucks.)

An authority refused permission to erect petrol pumps in the forecourt of an inn at the junction of A.329 and B.385. The Minister upheld them on appeal: "The establishment of a petrol-filling station would undoubtedly increase the number of vehicles resorting to the forecourt, and having regard to the restricted view . . . from the entrance . . . such an increase is clearly undesirable. The limited space available in the forecourt and (its) existing use . . . for parking cars make it undesirable to permit the establishment of a petrol-filling station on the proposed site." (D.8. Hicks *v.* Berks.)

An authority consented to the erection of petrol pumps on condition that cars should only be filled from the pumps when standing on the owners' property and not on the service road on the boundary of which they were to be erected. The Minister considered that a service road must fail to fulfil its purpose as a means of passage for local traffic in proportion as it is impeded by trading in connection with vehicles stationary upon the road, and having in mind the principles underlying the provisions of Section 17 of the Act, supported the authority. (D.7. Burge *v.* Middlesex.)

An applicant proposed to reconstruct a derelict cottage on B.4010 to plans approved by the planning authority (to which no objection was raised at the Appeal Inquiry by witnesses from the Council for the Preservation of Rural England). The highway authority refused consent to building and access. There was an existing means of access of 5 ft. 10 in. The Minister held that the proposals, involving the construction of a forecourt, from which vehicles might enter the road under safer conditions than would be possible through the present means of access, were not unreasonable and ordered the authority to consent, subject to a condition that the house be used only as a private dwelling-house. (O.1. Waller *v.* Bucks.)

UNSATISFACTORY PLANNING. — In several cases the Minister has supported authorities in refusing consent to development contrary to the proposals of the planning authority, and the same public inquiry has dealt both with an appeal to the Minister of Health under the Planning Act and the appeal to the Minister of Transport under the Ribbon Act (D.4. Butcher *v.* Hendon, factory on A.407, on land to be zoned for residential development; D.5. Wright *v.* Middlesex; houses on land near B.375 to be zoned as an open space for public use; D.9. Franklin *v.* Bucks, house and café on low lying ground on B.376 proposed for permanent restriction on grounds of danger or injury to health or excessive cost of public services; D.10. Griffith *v.* Middlesex, houses on land on A.315 to be zoned as an open space for public use and adjacent to land so reserved; D.13. Ford *v.* Warwick, shops (with no service road) on land on A.41 zoned as residential at 8 houses to the acre).

Consents Subject to Sets-back.

PROVISION FOR FUTURE ROAD TRAFFIC REQUIREMENTS.—In D.1. Halsall *v.* Lancs, the authority required a 50-ft. building line (to allow of subsequent widening of A.583 by 30 ft. and set-back of 20 ft. from the proposed new boundary) although some neighbouring houses were in advance of that line. On appeal the Minister supported the Council.

In other cases authorities consented to new buildings subject to certain set-back and to conditions as to the provision by the applicant of a service road. (O.2. Marshall *v.* Herts, houses on A.405; O.3. Evitt *v.* Herts, houses on A.412; O.6. Hind *v.* Notts, house on A.163.) In at least one of these cases it was clear that "group development" was out of the question. While the proposed sets-back differed, the three cases present certain points in common, and raise important questions of principle. The following are extracts from the decision letter in the Notts case: "The

* *The references to cases are given as briefly as possible, the numbers D.1, etc., referring to appeals dismissed and O.1, etc., to cases in which orders were made. The numbers preceded by "A" refer to roads.*

Council consented to the construction of the means of access on the following conditions :—

(1) The means of access shall be temporary and shall be closed by the applicant if and when the subsidiary carriageway with a permanent means of access to the highway as hereinafter referred to is constructed.

(2) When and at such time as the land adjoining or in the neighbourhood of the applicant's land is so developed as in the opinion of the Council the construction of a subsidiary carriageway is desirable, the applicant, upon being requested by the Council in writing, but not otherwise, shall construct at his own expense to the satisfaction of the Council on the land belonging to the applicant either or both of the following works—namely, (*a*) a subsidiary carriageway not less than 15 ft. in width; (*b*) a permanent means of access not less than 15 ft. in width from the highway to the subsidiary carriageway;

Provided that when the subsidiary carriageway has been constructed for a length of 440 yds. or less, as may be deemed sufficient by the Council, either the Council shall consent to the construction of the permanent means of access on the applicant's land as referred to in paragraph (2) (*b*) hereof, or alternatively the applicant shall be afforded a permanent means of access from the subsidiary carriageway to the highway at a distance of not more than 220 yds. from the applicant's land.

(3) The subsidiary carriageway shall be parallel to and not less than 15 ft. from the boundary of the highway, or if before the construction of the subsidiary carriageway the Council have adopted a standard width for the highway, the subsidiary carriageway shall be parallel to and not less than 15 ft. from the boundary of the standard width.

(4) If and when constructed to the satisfaction of the Council the Council without payment to the owner shall adopt and thereafter maintain the following as part of the highway (*a*) the subsidiary carriageway; (*b*) the verge between the subsidiary carriageway and the highway or between the boundary of the standard width as the case may be; (*c*) a verge not less than 5 feet in width on the inner side of the subsidiary carriageway; and (*d*) the permanent means of access referred to in paragraph 2 (*b*) hereof.

After recital of details as to the proposed and existing buildings, the Minister's letter continued : "The object of the Act is to enable highway authorities to control development along roads in such a way as to preserve amenities and to secure well-planned development. In the Minister's view development parallel to a road, such as is proposed in this case, cannot be regarded as well-planned unless it provides accommodation off the road for the vehicles of tradesmen and others calling at the buildings. Such provision will usually take the form of a service road, and the Minister does not regard this as an unreasonable requirement.

"On the evidence before him, the Minister sees no reason to question the Council's view that the section of the road A.163 adjoining the appellant's plot will ultimately require to be widened to 80 ft. and that the widening should take place equally on either side of the road. At the same time, the Minister is of opinion that it is not necessary in this case to require the appellant to set back the house so far as 130 ft. from the middle of the road, as a set-back of 85 ft. from the middle of the road would provide sufficient space for : (*a*) The ultimate widening of the road to 80 ft., (*b*) a verge 5 ft. wide between the line of widening and the service road, (*c*) a service road 20 ft. wide, and (*d*) a building line 20 ft. from the inner edge of the service road, which, in the Minister's view, are the appropriate dimensions.

"Further, although the Minister agrees in the main with the principles underlying the conditions which the Council have attached to the consent to access, he finds some difficulty in supporting the Council in the precise terms of those conditions."

The Minister made an Order on the Council, the operative clause of which ran : "The highway authority shall forthwith consent : (1) To the erection of the building subject to the condition that the building shall be erected not less than 85 ft. from the middle of the road; (2) to the construction of the means of access subject to the following conditions :—

(*a*) When the land adjacent to the appellant's land is so developed as in the opinion of the highway authority to render necessary the construction of a service road as defined below, the appellant shall, at the request of the highway authority, construct at his own expense and to the reasonable satisfaction of the highway authority, so much of the said service road as will cross the appellant's land. Provided that there shall be no obligation on the appellant under this condition unless and until the highway authority give to him an undertaking in writing to adopt the service road when completed as a highway repairable by the inhabitants at large and to connect it to the road at a point not more than 220 yds. from the means of access.

(*b*) Upon the service road being completed and adopted as aforesaid the means of access provided by the said service road shall be in substitution for any other means of access constructed under this consent and such other means of access shall thereupon be closed.

(*c*) The service road referred to in these conditions shall be a service road parallel to and not less than 45 ft. from the middle of the road, and having an overall width not exceeding 20 ft. comprising a carriageway (not exceeding 16 ft. in width) and footpath, and in all other respects constructed according to the reasonable specification of the highway authority.

(*d*) Any dispute arising under these conditions may be referred to the Minister, whose decision shall be final."

Orders in similar terms, but with necessary amendments as to distances, were made in two other cases (O.2 and 3).

Provision and Maintenance of Service Roads.

"It may be observed," continued the lecturer, "that if building is carried out in depth the developer as a matter of course constructs the necessary estate roads, and he or his successors maintain the roads until made up and taken over by the highway authority. If development takes place ribbon-wise, should the developer escape the obligation to construct service roads rendered necessary by the erection of the buildings and to maintain them until taken over? On the other hand, the construction of one or two isolated buildings may not justify a demand for immediate provision of a service road. It may be recalled here that under Section 9 the compensation payable for injurious affection caused by the restrictions must be assessed on the basis of the market value of the piece of land when it is subject to restrictions and the market value of the land if it were not so subject. The cost of constructing a service road in compliance with the conditions attached to a consent may have no relation at all to the difference between the two market values."

PURPOSES OUTSIDE THE ACT.—The powers of the Act must be used by an authority for the purposes of the Act and not otherwise. An authority refused consent to building because they were uncertain as to their own future proposals for a by-pass. (O.5 Martin *v.* Northumberland : where the Minister ordered consent to be given subject to conditions as to provision of a service road similar to those recited in the Notts. case above.) Another authority refused consent to the building of a new public-house as the estates were "already well served with licensed premises." (O.7 Walker *v.* Bootle, where the Minister ordered consent subject to certain provisions as to vehicle accommodation in the forecourt, to which the appellants agreed.)

"Little can yet be said as to the quantum of compensation which has been paid or may have to be paid. No record is as yet available of any case that may have gone to the arbitrator. The restrictions of Section 2 applied automatically, as from the date of passing of the Act, to over 40,000 miles of classified roads. Seven counties in the south of England, five in the Midlands, three in Wales and two in Scotland have passed comprehensive resolutions applying the restrictions of Section 2 to a further 11,000 miles of unclassified roads. Other counties, the county boroughs and other highway authorities all put together account for a further 1,500 miles, of which about 1,200 are in the counties.

"Of that total of some 55,000 miles of roads protected under Section 2," concluded the speaker, "only 125 miles have yet been promoted by their authorities to the higher stage of a Section 1 resolution, which is of particular interest to the authority, in that the approved resolution unlocks the key to a Road Fund grant towards compensation payments. Two counties alone, Bucks and Hants, are responsible for 75 miles out of the 125, and the energy and enthusiasm shown by the Committees and officers of those counties in administering the Act is a great encouragement to the Minister and his officers. The difficulties of fixing a standard width are great, as witness the time which it takes the Minister to approve a standard width resolution; but sound and ordered development is only to be secured by those who have the courage and the foresight to look ahead and plan for the future."

BOOK REVIEW

The Old Halls and Manor Houses of Northamptonshire. By J. ALFRED GOTCH, M.A., F.S.A., P-P.R.I.B.A. London : Batsford. Price 21s. net.

It gives a great deal of pleasure to look through this volume and to study the architecture and buildings of a past age. It is essential to move with the times, but many will doubt if in the present age we produce such fine architecture as is here shown. In a brief notice justice cannot be done to the beauty of these fine old halls and manor houses, which are so well illustrated and described by the author. Many who may never have an opportunity of seeing these fine old buildings will be glad to possess this book.

Apparently, John Norden, in 1610, made an exploration of Northamptonshire, and gave a list of some "three and fifty seats of Noblemen, Knights, and Esquires," of which more than half are described in this volume. Of the fifty-three, only thirteen still remain with the descendants of the owners of Norden's time. Later historians were William Camden and Thomas Fuller, and to-day Mr. Gotch adds his comprehensive survey, compiled with knowledge and an enthusiasm for his subject, and illustrated in a manner that was never possible to earlier recorders.

It is stated in the book that the author has endeavoured in his descriptions to give a fairly comprehensive history of the architectural development of the houses without burdening the story with technical details; and at the same time he has borne in mind that it is the human interest which gives life to the past and adds fascination to its study. The connection of great families and famous men with the county seats is of outstanding interest—Elizabeth's minister, the great Cecil, built Burghley House; that eccentric devotee, Sir Thomas Tresham, adorned with his symbolical fantasies the Rushton Triangular Lodge and Lyveden; Sir Christopher Hatton, Elizabeth's "dancing Chancellor," owned Kirby and built Holdenby; Ashby St. Ledgers was connected with the Gunpowder Plot; and the memory of Dryden, the poet, is intimately associated with Canons Ashby, Rushton, and Cotterstock.

TIMBER IN LONDON BUILDINGS

By EDGAR L. CAMPBELL, F.S.I., A.M.I.Struct.E., A.I.Arb. (Certified Surveyor under the London Building Act.)

In an earlier article (*The Builder*, Jan. 10, 1936) the use of timber in London buildings was discussed, and the extent to which this material might be introduced was considered in the light of legislation then applicable. The London County Council have now produced "Proposed By-laws for use of timber in the construction and conversion of buildings," wherein rules are stated for the calculation of stresses in timber, or, alternatively, for the determination of the size of certain timbers without the calculation of loads and stresses.

Application of By-laws.

These by-laws are stated to apply to load-bearing timbers "as cut and fixed in a building," and an existing building when converted must also conform thereto.

The timber, of at least merchantable redwood (Pinus Sylvestris) quality, must be well seasoned and with a moisture content not exceeding 22 per cent. It must be free from serious defects, and, except where used for roof or floor boarding, be not less than 1¼ in. thick.

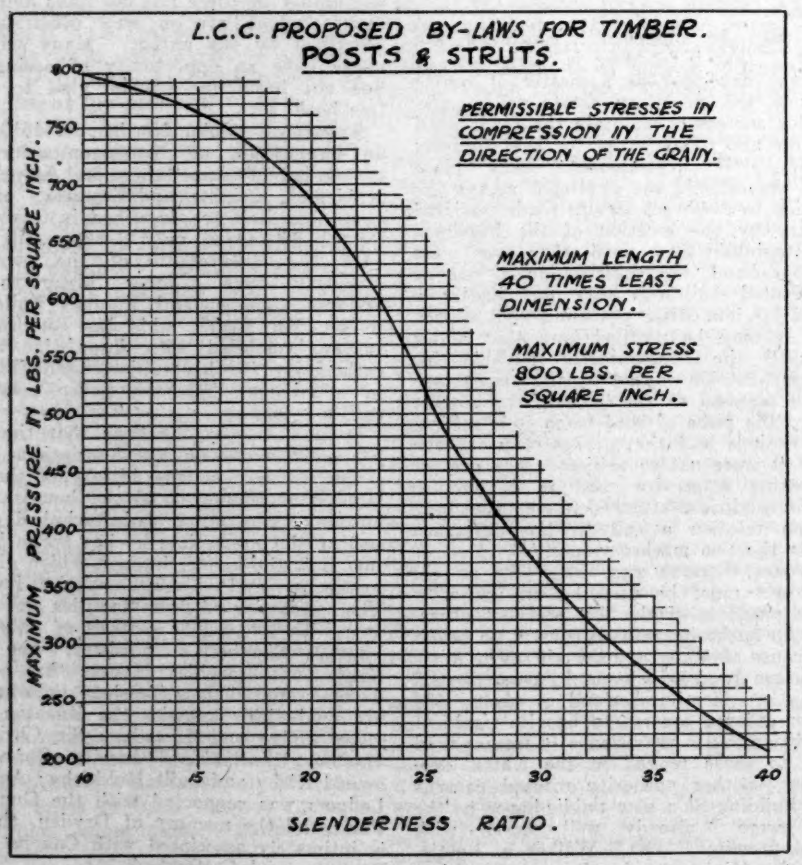
Ordinary yellow deal or redwood from the Baltic yielded by the Scots pine (Pinus Sylvestris) is the minimum by-law standard, and no reference is made to increased stresses for stronger timber. It is thought, however, that an application to the Council for consent to use increased stresses in any specific case would be considered.

All work has to be to the satisfaction of the district surveyor, who is also empowered to call for such samples of timber as he may reasonably require. A builder dissatisfied with a decision of a district surveyor may appeal to the Council.

L.C.C. PROPOSED BY-LAWS FOR TIMBER

DIMENSIONS IN INCHES OF BRIDGING JOISTS 12 INCHES APART IN CLEAR

SUPER. LOAD PER SQ. FT.	SPAN IN FEET 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
40 lbs.	3×2	4×2	4×3	5×2	6×2	6×2	6×3	7×2½	7×3	8×3	9×2	9×3	11×2	11×2	11×3	11×3
			4½×2	4½×3			7×2									
80 lbs.	4½×2	4½×3	6×2	7×2	7×2½	7×3	9×2	9×3	11×2	11×3	11×3	11×3	11×3	11×3		
	4×3	5×2		6×3			8×3	9×2½								
	4×2															
90 lbs.	4×3	4½×3	6×2	6×3	7×3	7×3	8×3	11×2	11×3	11×3	11×3	11×3	11×3	11×3		
	5×2			7×2	9×2	9×2	9×2½	9×3								
	4½×2			7×2½												
100 lbs.	5×2	4½×3	6×2	7×2	7×3	9×2	9×2½	11×2	11×3	11×3						
	4½×2			7×2½		8×3		9×3								
	4×3			6×3												
150 lbs.	6×2	7×2	7×3	9×2	9×3	11×2	11×3	11×3								
		6×3	7×2½	8×3	9×2½											
200 lbs.	7×2	7×3	9×2½	9×3	11×2	11×3	11×4	USE OF FLOOR							LOADING	
	7×2½		9×2	8×4	9×4											
	6×3		8×3					Residential purposes.							40 lbs. per sq. ft.	
	6×2		7×4					Offices, above entrance floor.							80 " "	
								Offices, entrance floor & below, retail shops & the like.							90 " "	
								Corridors and landings.							100 " "	
								Workshops & factories, garages & the like.							150 " "	
								Warehouses, book stores, stationery stores & the like.							200 " "	



Permissible Loads and Stresses.

The superimposed loading to be provided for in all structural timber is that tabulated in the Building By-laws published last August. This table distinguishes between the main beams and the slabs between such beams. In the timber by-laws bridging joists are to be treated as slabs and not as main beams, with the modification that the loading for residential purposes is to be taken at 40 lb. instead of 80 lb. per sq. ft.

The stresses in timber are limited, in lbs. per sq. in., to 800 for bending, 90 and 165 for horizontal and perpendicular shear respectively, 800 for longitudinal compression in short posts, 800 for longitudinal tension, and a modulus of elasticity of 1,200,000. Combined stresses must be provided for.

Sizes Without Calculation.

In the case of rafters and purlins to pitched roofs (which means roofs inclined more than 20 deg.), roof and floor boards, joists and beams supporting joists, tables are provided in the by-laws which enable a timber to be selected without stress calculation. There are 12 of these tables, each giving the maximum permissible length of the rafter, purlin, joist or beam, as a multiple of the depth according to the clear spacing between timbers and the class of loading thereon.

The accompanying table gives the appropriate stock sizes for normally spaced bridging joists selected in accordance with the Council's rules.

Bressummers.

A single beam such as a bressummer carrying a wall, would have to be calculated to keep within the permissible stresses, and its deflection must not exceed one three-hundred-and-sixtieth of its length.

Posts and Struts.

800 lb. per sq. in. is the permissible stress in the direction of the grain in posts and struts having a slenderness ratio not exceeding 10. "Slenderness ratio" is defined in the by-laws to mean the ratio of length to "thickness," and "thickness" to mean the lesser transverse dimension.

Maximum pressure in lb. per sq. in. for slenderness ratios exceeding 10, range from 785 to 205 when the maximum permissible ratio of 40 is reached. The diagram gives a curve for use in this connection.

Boarding.

Floor boards and boarding to flat roofs must be at least ¾ in. thick and be securely fixed to every joist. The thickness of boarding is also limited by the clear spacing between joists. If calculated, its deflection must not exceed one three-hundred-and-sixtieth of the clear spacing, or, in the case of habitable rooms, and of corridors and landings, one sixty-fourth of an inch.

The ends of boards abutting against a wall may project up to 2 in. beyond the joists or firrings. In other cases the ends must be securely fixed to the joists.

London Electricity Supply: a Handbook.

A number of electricity supply companies which, as a result of recent amalgamation, are controlled and managed by London Associated Electricity Undertakings, Ltd., have issued a handbook which indicates the general outline of the progressive policy being adopted by London Associated Electricity. Contained in it are details of the technical service which has been extended in scope to meet the recent request of architects. A copy of the handbook, which should be of value to every architect building in the areas, may be obtained upon application from 60, St. Martin's-lane, W.C.2.

THE ARCHITECT IN LOCAL GOVERNMENT SERVICE—II

THE STATUS OF THE ARCHITECT

BY A SENIOR ASSISTANT.

THE status of the qualified architect employed by a local authority has been much discussed lately. The opinion is being strongly urged from many quarters that he should be vested with full authority by the council which employs him to submit schemes in his own name, and to carry them through on his own responsibility. Only too often, it is said, the credit for work nominally designed and carried out by the borough engineer and surveyor is really due to the qualified architect engaged as a member of the staff, a position derogatory to the architectural profession.

A number of the larger authorities possess a fully staffed department, of which a qualified architect is the head. This arrangement is not a practical proposition in boroughs or urban districts of smaller size, on account of the overlapping which would ensue between an architect's department (which could only be regarded as something of a luxury) and the engineer's department, which, in addition to building work, undertakes so many vital services.

The smaller local authority has the alternative of placing its commissions with private practitioners, where the need does not justify the engagement of a whole-time official. For various reasons, which are very debatable and outside the scope of this article, such a course is not one that is greatly favoured; and, apart from competition work, it should be recognised that the bulk of the municipal architecture of this country will continue, for many years to come, to be carried out by the engineering and surveying departments. These, staffed as they are with a proportion of qualified architectural assistants, are the most readily adapted and organised to deal with the ordinary constructional work of a local authority, whether done by contract or direct labour.

The secondary position of the architect, in being compelled to take his instructions from a member of an allied—but strongly contrasting—profession is naturally a matter for regret. No other important profession, to the writer's knowledge, is similarly placed. The officers of other callings—legal, medical, accounting—can be promoted within their own departments to executive posts; whereas usually the only way in which the architectural man can reach the top of the ladder is in competition, with many others, for the few vacancies that arise from time to time in departments controlled by architects. He may then, if favoured by fortune, aspire in due course to the rewards and responsibilities of a chief officer.

For the assistant compelled to remain in an engineering department, however, certain compensations exist. If he misses the reward of high office, he is at least sheltered from its worries and responsibilities, which in a busy municipality are numerous and harassing. If he gets less than his share of the credit for success, he also escapes criticism, often unreasonable, for work that, for any cause, may not turn out well. If his job is an established one, and he is included in a superannuation scheme, the present value of his expectation on retirement represents a considerable capital sum.

In his freedom—within reason—to plan and design, his attention is not continually distracted by the petty, worrying problems which beset a chief officer: questions of organisation and finance, staff matters, complaints from irritated ratepayers, applications for employment, endless interviews and correspondence with people whom to dismiss briefly may entail unfortunate and totally unexpected repercussions.

An executive officer in the service of a public authority can delegate very few of his troubles to others. He is regarded as a servant of the public, and the latter make frequent opportunities to remind him of the fact. His personal attention is expected to every representation or complaint, however unimportant; and the well-known phrase, "the gentleman appointed will be required to devote the whole of his time to the service of the Council," can, at some busy periods, be taken almost literally.

Meanwhile, the more lowly placed architectural assistant may, quite possibly, be free to exercise his abilities in comparative peace. As his experience and value grows, he naturally takes an increasing share in the minor troubles of a busy department; and will, in fact, seek to relieve his senior of matters of detail. At the outset of his municipal career he is often enviably free from such distractions, and may be privileged to work under almost atélier-like conditions.

It is probably beyond dispute that much thoughtful, imaginative work is encouraged by this circumstance, of which the public reaps the benefit; but it may justly be urged that this is no good either to the architect or his profession, inasmuch as his drawings bear the name of the engineer and surveyor—and the latter takes the credit for them.

This, while true, is a double-edged argument. Whoever takes the credit also takes the responsibility; and it will be admitted that a man at the outset of his architectural career—fresh, perhaps, from an approved five-year course—is probably none the worse for being compelled to keep his ideals in check, and his feet firmly planted on solid ground.

As a concession to those who see heresy in the foregoing remarks, the writer admits that there is a great deal to be said on the other side of the question. If the engineer insists on having half-timbered gables combined with slated roofs of 30 deg. pitch, he is perfectly entitled to get his way; and the architectural assistant must either do violence to his artistic soul or resign his job.

It must also be admitted that there are times when an architect's special training in design enables him to produce a scheme or suggestion which the engineer, with whom caution is second nature, cannot see his way to sponsor. It is a question of attitude of mind, a differing sense of values. In considering any building work to be carried out for the use of the public, and at the public's expense, the engineer will most probably have certain special points uppermost in mind. First and foremost, the probable cost of the scheme; here he will supply the wholesome antidote of pessimism to the architect's optimism. Secondly, building acts and by-laws; with the prospects of getting consents for any suggested innovations. Further, the scheme will be critically looked at in its relation to features such as roads and sewers, and essential services that may have to be provided by the engineer's own department.

As to architectural style, an engineer chief officer is almost certain to be opposed to extremes; elevations that represent the height of this year's fashions, with the corresponding prospect of being hopelessly dated ten years hence, rarely find favour. The recent pronouncement on this subject by an eminent member of the engineering profession represents a very general body of opinion, which is far from being uninstructed or prejudiced.

The architect, while not forgetting the foregoing matters, is more likely to give preferential treatment to other aspects of a problem; and therein lies the danger of a clash between the spokesmen of two differing points of view. Such standpoints should really be complementary rather than opposed; but the fact remains that different opinions as to what is vital and what is optional may give rise to a situation of some difficulty.

The architect must realise this possibility when he enters the local government service, otherwise disillusionment and disappointment will, sooner or later, be experienced. Even if he reaches a position of sole responsibility, he is still the servant of his council; and local authorities can at times be as "difficult" as the most exacting of private clients.

Schemes Deferred.

It may be stated, however, that no clash of temperament is ever likely to call for such patience as the seemingly endless time that often drags on between the inception of a scheme and the actual putting in hand of the work. Having looked up a twelve-year-old collection of diaries, the writer finds that the average time in question is three years. What happens? A resolution to acquire a site is passed, and negotiations are opened for purchase. Preliminary schemes are prepared, discussed, amended, revised, and provisionally adopted; whilst two figures originally far apart, namely, the owner's price for his land and the council's opinion of what it is worth, are gradually brought closer and closer together until agreement is reached. Every succeeding step in the proceedings must be reported to the committee, who—unlike the private client—are usually visible no more than once a month. Vital decisions, such as a resolution to purchase at a given figure, or to approve a definite estimate, cannot be acted upon until they have been submitted to full council, who may (and often do) refer them back to the committee for further consideration.

Meanwhile, working drawings and specifications are being worked upon; and, in the metropolitan area at least, consents are being applied for under the town planning, building and other Acts—which, owing to the large number of such applications to be dealt with, may take several months to obtain.

Tenders are advertised for and received; then begins the tedious business of applying for loan sanctions, owing to the fact that a scheme of any importance has usually to be financed by the county or other superior authority. At this point, the whole project is subjected to further minute scrutiny; and if the loan-sanctioning authority are dissatisfied on the question of cost, or on any other important factor in the case, the greater part of the work already accomplished may have to be radically revised.

By this time it will be fortunate if we have escaped the occurrence of at least one of the three things which temporarily put a committee out of action. These comprise the summer recess, the annual change of committee personnel, and the periodical election of a new council. Any of these events may cause a break of two to three months in the proceedings; and in the meantime conditions may alter by way of rise or fall in the cost of labour and material. There is always the risk of a change of outlook in the new committee; and in the event of a new council there may be a complete change of policy.

A scheme of any magnitude is seldom wholly abandoned—but it may be, and very often is, deferred—which is a word that possesses a less hopeless sound for the uninitiated. "Deferred until next meeting" is common enough, and need cause no disappointment; "deferred for the present" means that the drawings may be filed away, and other tasks begun.

The above remarks are in no way intended to reflect upon the committee system of local government. The advantage to the public of cautious progress, with detailed discussion at every stage, is evident; but for the architect, anxious to see his paper work translated into bricks and mortar, the time taken over the preliminaries, with the possibility of a "sine die" delay at any time, is a great trial of patience. In course of years, he acquires a philosophy which enables him to foresee and bear up against life's disappointments; and it is always a hopeful thought that many schemes, apparently left for dead, are revived in the course of future years, and eventually take shape.

Conditions of Employment.

A few notes on conditions of employment and financial prospects in the municipal service may well conclude this article.

Current salaries for architectural assistants can be ascertained from the advertisement columns of the professional Press. On the whole, they show a welcome upward tendency, and it is satisfactory to note that the number of instances in which the applicant is asked to state what salary he requires is diminishing.

In weighing the value of one post against another much will depend upon the existence or otherwise of a superannuation scheme.

Staff superannuation, though annually gaining adherents among the local authorities, is not yet compulsory; and careful thought should be given before coming to a final decision should it happen—as it does occasionally—that a choice of two alternatives has to be made. It is to be hoped that future legislation will have the effect of putting all local authorities on an equal footing in regard to this important matter.

The same caution is called for when considering any post advertised as temporary, or unestablished. Even if the authority has a superannuation scheme in force the temporary official is usually ineligible to join it; and there is no telling how long he may remain temporary. The only course to pursue, if selected for a non-permanent post, is to make inquiry, before acceptance, as to the future prospects of the situation—particularly if the probable duration of the appointment is left unspecified. There is usually a preliminary interview with one's future chief, at which this question can be put; or, it may be, referred to the committee direct.

It is also important to bear in mind that when joining a superannuation scheme on promotion from a temporary to an established post, contributions to the fund may have to be made to cover the period of temporary service. This, though beneficial to the officer when he reaches the age of retirement, may mean a considerable financial strain while the arrears are being paid off. In the case of the present writer, the amount ran into three figures; but his authority showed great consideration in allowing the amount to be spread over a term of years, without the addition of interest. To provide against any contingency of this kind, the temporary officer would be wise to set aside a certain proportion of his salary.

Promotion.

It is generally unwise to reply upon promotion or financial advancement, within one's own department. When sufficient experience has been gained in one place an effort should be made to move to another. This may entail a good deal of shifting about; and it may be some years before one feels that he has reached the highest position that he can reasonably hope to gain. A varied experience, however, is a great asset; and this is the best way in which it can be obtained. Otherwise, it is all too easy to get into a mental rut while waiting for some superior officer to retire.

Leave of Absence and Retirement.

Holiday leave, though not usually on so generous a scale as in the Civil Service, is generally adequate; and temporary—or even prolonged—absence due to sickness or ill-health often meets with more sympathetic consideration than could be expected from a private employer. There is also the advantage of a national association managed by, and for, local government officers, through which provision can be made against the expenses of illness.

Retirement normally takes place at the age of sixty-five. By that time the architectural officer will probably have spent several years under his final authority, and made many social contacts. It is thus possible that even at this age he may be able to taste some of the joys of private practice—although on little more than might be called "hobby" scale. The writer knows several who are prolonging their professional careers in this way; and it will probably be conceded that such activities carry with them a very small risk of injury to the established practitioner.

COMPLIMENTARY DINNER

About 60 guests were present at a dinner recently at the Cherry Tree Restaurant, Welwyn Garden City, to Mr. A. W. Kenyon, F.R.I.B.A., who has just concluded his last work in Welwyn Garden City as architect to the company. Mr. F. J. Osborn was in the chair, and in addition to Mr. and Mrs. Kenyon, there was a large representation of those who had played a large part in the growth and planning of the town.

Mr. Osborn said that the dinner was held not only to show friendly appreciation of Mr. Kenyon's work and to bid him a sort of semi-official farewell, but also to place on record what he had done in the creation of the town. The credit for what was good in architecture and site-planning in Welwyn had to be divided among many. On the whole one saw harmony, grace and beauty such as was seen nowhere else without jarring elements. Mr. Kenyon came to Welwyn 15 years ago as chief assistant in the Garden City Company's architectural department. After six months he became jointly responsible with Mr. de Soissons for all the company's architectural work, detailed site-planning, and passing of plans. In practice, the actual designing of buildings and passing of plans increasingly fell to Mr. Kenyon, and in 1923 he became solely responsible for all designing for the company, except for buildings in the town centre, which remained a joint responsibility. In practice he continued to influence elevations through the system of control.

Having given a list of the buildings designed by Mr. Kenyon, he said that for most of those 15 years the day to day work of approving plans submitted by builders had devolved upon Mr. Kenyon—no easy job, and architects present had not always agreed with him. What he was really controlling was the philistine client or the speculative builder, and not the architect, who generally knew better himself, but wasn't sorry to have a Jorkins to blame.

"I have admired the sureness and unshakableness of his taste in this unthankful work," said the speaker. "He knows just when a design passes from the tolerable to the awful. Many good architects on this work give it up and think an extra bit of badness doesn't matter."

Mr. C. H. James said that Mr. Kenyon had kept a firm hand on the architecture of the town and never let things slide. His charming houses, modern, traditional and fresh, were of great importance in domestic architecture. "I think," said the speaker, "that the Garden City Company has been extremely fortunate in having had him for so long, and is extremely unfortunate in losing him."

Mr. F. R. Yerbury said many foreign architects had been visitors to Welwyn, and one and all had come back speaking highly not only of the town, but of their reception by Mr. Kenyon.

Professor S. D. Adshead said that Welwyn was a most remarkable modern town. It was thoroughly good from beginning to end. What really mattered in a town was not the question of "twelve to an acre or twenty to an acre," but the presence of consistently good architecture from start to finish.

Mr. A. W. Kenyon, replying to the toast, said he believed that Welwyn Garden City would be known in the future because it had been demonstrated there that it was possible to build a modern town without ugly or undesirable features. England had always been noted for its villages and small towns, built by simple men with simple materials, but their charm was being spoiled by unsuitable new types of architecture in which one house strove in its pretentiousness against another. At Welwyn they had started from zero and made up their minds that a high standard should prevail. When they now looked round Welwyn and saw its peacefulness and lack of ugly features and general orderliness, one thought that what had been done there could be done elsewhere. But how many authorities would control the appearance of their towns? Ugly advertisements on cottages, and ugly shop-fronts, could be controlled easily. The speaker concluded by saying how glad he was that the architecture of the town would be in the good hands of Mr. de Soissons. It was essential that everyone in the town should maintain as much interest in the future as in the past, so that they could be sure the finished town would be something they could be proud of.

EXTRAS

By W. T. CRESWELL, K.C., Hon. A.R.I.B.A., A.S.I., etc., assisted by NORMAN P. GREIG, B.A., Barrister-at-Law.

Definition of "Extras."

Few building or engineering contracts are determined without some question being raised on the adjustment of the final accounts as to "extras." Also claims for "extras" form the basis of the bulk of building or engineering disputes. To meet these, most contracts provide for their measurement and valuation if and when they occur. But the contractor, in order to substantiate his claim for "extras," is usually required by the terms of the contract to produce, as a condition precedent to payment, written orders for the "extras" incurred, together with any necessary measurements, day-work sheets of men's time and materials used, vouchers for items purchased, etc., under "Provisional" or "P.C." amounts provided in the contract.

"Extras" arise out of variations made in the actual contract work, and all variations are either extras or omissions, though all extras are not necessarily variations. Building and engineering contracts in general make provision for such variations, giving the architect or engineer the power to order them, as the case may be. But such power does not enable the contractor or engineer to order, for the purpose of completing the work, any items which have been omitted, or in any way to vary the terms of the contract.

"Extras" may be said to be works not expressly or implicitly described in the contract documents. But in all instances it must be shown that the "extras" claimed are works of the kind contemplated by the contract and were not outside or independent of it. If they be outside or independent of it and considerable additional work is added by the alterations, then what may amount to violation of the original contract or to a new contract altogether may be set up, and such work and labour need not necessarily be paid for in accordance with the terms of the original contract at all. Whether additional work is of the kind contemplated by the contract or extra and independent of it is always a question for the Court to determine.

Let it be made plain, the term "extras" should be applied only to work done in a different method from, or to work additional to, the contract, but of a nature necessary to render the contract work complete. Such "extras" are subject to the terms of the contract. The term cannot be applied to an order for work which is outside the contract altogether, and no "extras" can be claimed for work implied by the contract documents.

In Russell *v.* Sada Bandeira (1862) it was held that "extras" to a building contract were something not specified in, or fairly comprised within the contract, but which are cognate to the subject-matter of the contract and applied to the carrying-out of its design.

In Barker *v.* Hurlingham (1913) it was said that the word "extra" is not used in the sense of a money payment at all, but in the sense of extra work or omitted work.

In general, all "extras" must be authorised, and even if assent is given to an alteration in the work as originally contemplated, the employer must be made aware of the increased expense before he can be called upon to pay for the alteration. Furthermore, no claim by the contractor for "extras" can be allowed for materials supplied or work done in a better way than originally contemplated. Also, if he has done work as good as or better than the work contemplated by the contract, he may not be able to recover payment for it, since he has not performed the contract as originally contemplated.

DAMPNESS IN BUILDINGS

By A. M. MITCHELL, B.Sc. (Eng.)

THE following article deals with the problem of dampness in the ordinary dwelling-house; but in a diagnostic manner, in a way that is different from that usually employed. In spite of all the information available on the subject, the several common faults described below are frequently treated incorrectly as the result of a wrong diagnosis of the cause of the trouble.

Numbered and stated below are the manifest symptoms, each followed by its cause and cure.

SYMPTOM 1.—Dampness showing on an external wall, worst along the top of the skirting and climbing up for a foot or so from the floor.

The damp-course is at fault. In old property the damp-course may be defective or missing. The cure is expensive and involves cutting out the wall in short lengths, inserting the damp-course and making good.

A more common cause of the trouble is that the ground level is above the damp-course level. The damp-course should be 6 in. above the external ground level. The correct conditions are shown in Fig. 1, and in Fig. 2 the state of affairs that frequently exists: gardeners make up their flower-beds to such a height as to cover the damp-course; sometimes a path is made round the house, bringing the finished level above the damp-course.

When the conditions are as shown on Fig. 2, water from the ground will be absorbed by the brickwork on the section *AB*, and, being above the damp-course, will then rise by capillary attraction to a maximum height of about 4 ft.

There are two methods of curing this trouble. One is to lower the external ground level until it is below the damp-course, and the other is to insert a vertical slate damp-course. This method is shown in Fig. 3. A narrow trench is dug round the affected portion, and a vertical damp-course, consisting of two courses or layers of slates, bedded in cement mortar, is fixed against the wall, as shown. This vertical damp-course should run about 6 in. below the horizontal damp-course and about the same above the ground level. The trench can then be filled in and any leak from this source will be stopped.

A word of warning is necessary here. In this case, and in any other, the only cure is to stop the water getting into the wall. It is the wrong method to attempt to treat the inside of the wall with any of the waterproofing liquids or waterproof papers that are on the market. These have their uses, but this is not one of them. The only cure for a damp wall is to prevent the water getting into the wall.

A wall that is thoroughly wet will take several months to dry out, and this should be remembered before any redecoration is undertaken internally.

SYMPTOM 2.—Dampness underneath the floor, noticeable by smell or by rotting of floorboards, etc.

This trouble is not always immediately obvious, but is a condition that is very dangerous. The dampness is due to lack of ventilation and gives rise to ideal conditions for "dry rot" to attack the timbers.

The cause is lack of, or an insufficient number of, air-bricks (see Fig. 1). There should be at least one air-brick to every seven or eight feet of external wall. If these are missing they must be put in at once before serious trouble occurs. Dry rot can get a firm hold on the timbers of a house before its presence is noticed and is extremely difficult and expensive to eradicate.

SYMPTOM 3.—Dampness shows round windows, more particularly underneath the windows.

Dampness here is caused by water driving in between the frame of the window and the surrounding brickwork and cill at the bottom. Depending slightly upon conditions, this can be cured by stopping the joint and painting the window. Sometimes the leak occurs underneath the stone or wood cill. It is cured by stopping as before.

SYMPTOM 4.—Dampness showing from the floor upwards, but on an internal wall backing on to an outhouse or cupboard.

The cause of this trouble has frequently been found to be due to the stacking of coal and coke in the outhouse or cupboard. Water from the damp coal takes very little time to work its way through the wall to the internal face.

SYMPTOM 5.—Going now to the first floor: dampness coming in over an area of wall, usually an exposed area.

Rain will drive clean through the brickwork of an exposed solid wall. The brickwork may need repointing, and this should be done with special waterproof cement and sand. Again, the brickwork itself may be porous, and in that case repointing itself will not effect a cure. The wall should be treated then in one of the three following ways.

Patent waterproofing liquids, invisible after application, are on the market; and if it is desired to retain the original appearance of the brickwork, one of these must be used. It is of great importance that the directions for use should be followed exactly and that the several coats required should be applied during a favourable period of dry weather, while the moisture content of the affected wall is low.

The second method of waterproofing is to have the wall rendered with cement mortar. This, of course, is a plasterer's job and will usually be done in two coats. It is a more expensive method than the one previously mentioned. The cement used for the work should be one of the special waterproof or water-repellent cements now supplied by the manufacturers. A wall treated in this way can be guaranteed impervious to water. Pebble-dashing is not advised.

The third method is to have the wall tile hung. This method looks well and is effective.

SYMPTOM 6.—Patches of damp showing through external walls in isolated positions.

Investigation should be made while it is raining, to see if there is a leak in a rain-water down pipe or in a gutter.

SYMPTOM 7.—Damp patches in the ceiling immediately above the fireplace.

These will be due to a defective chimney gutter between the chimney and the roof. The old one should be removed and replaced with a new copper or lead gutter and corresponding flashing. Patching is no good, especially if the old gutter is of zinc. The same applies to valley gutters.

SYMPTOM 8.—Long patches of dampness running down the wall near the fireplace.

These patches may be due to rain running down a chimney flue. It will happen usually when the flue is disused. The rain may enter the flue through the top or may drive through the brickwork of the stack. If the flue is disused the top should be sealed. In any case, the cement mortar on top should be renewed and well sloped to allow the water to run off. The stack itself should be rendered in water-repellent cement and sand.

SYMPTOM 9.—Leaks underneath a flat roof, or underneath the valley gutter in a tiled roof. These leaks will be noticed through the ceiling.

Zinc is not a good covering for a permanent job, and after a lapse of some years tends to deteriorate rapidly. As a result, thousands of zinc flats and gutters are giving trouble to their owners. Once a zinc flat commences to give repeated trouble, the only thing to do is to have it recovered in copper, lead or asphalt and to employ independent professional supervision to see that the work is done in the correct way for the particular medium employed.

SYMPTOM 10.—Patches of dampness, small or large, occurring on any wall, but frequently on an internal wall. These patches come and go, always in the same places, and are baffling in that the affected wall probably is not exposed to the wet in any way.

These patches are due to condensation from the atmosphere upon areas of the plaster that have been repaired. The form of plaster, Keene's or Sirapite, commonly used for "making good" to places on a wall where the old plaster has been disturbed, finishes with an extremely hard, glass-like surface having a totally different density from the more porous surface of the original plaster. Everyone has noticed the water running down the mirrors in a room when a warm, damp day follows dry cool weather. The effect is the same on the wall. Water condenses on the cold, glassy-like surface of the new plaster, even though the wall is papered. The trouble frequently occurs in passages and rooms not well ventilated, and can be mitigated, if not cured, by allowing a through draught whenever the dampness begins to show.

In Figures 1, 2 and 3, the wall shown is a solid 9-in. brick wall, such as is universal in suburban construction. For good-class work, especially in exposed positions, the external wall should be of hollow construction, as shown in Figure 4.

There are other causes of dampness in a house: such obvious cases as missing tiles and burst pipes do not need discussion. The great trouble with many cases of dampness is not so much the cure as the exact determination of the cause; and it is here that the householder, by employing his own commonsense and by noting particulars, such as when and under what conditions the dampness varies, can give material help to his professional adviser.

A Guaranteed Working Week for Builders.

Johnstone T.C. has adopted the policy of the guaranteed week and a minimum wage for labourers on housing schemes. Those who voted for the change are of the opinion that labourers with security of employment and income will give better results than if employed under the present system of irregular employment and precarious wages. The new policy will be adopted at the Howwood-road scheme, which is in progress.

Similar proposals are under discussion in Kilmarnock, Glasgow and Greenock.

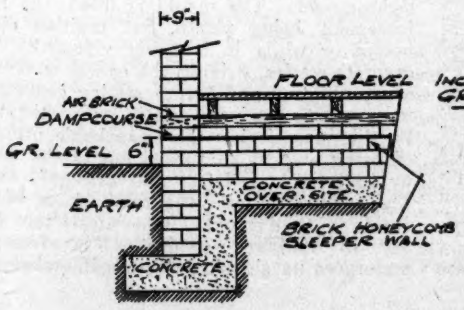


FIGURE 1

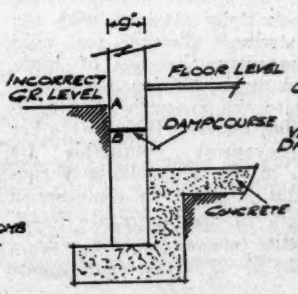


FIGURE 2

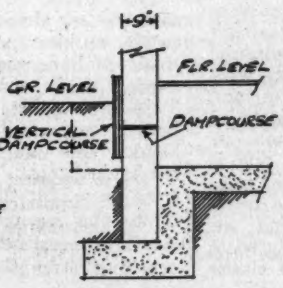


FIGURE 3

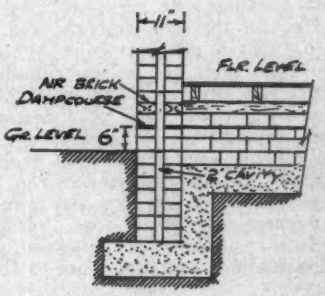


FIGURE 4

RECENT DEVELOPMENTS IN CONCRETE

HIGH STRENGTHS AT EARLY AGES.

Two eminent French engineers, Mons. E. Freyssinet and Mons. E. Mopin, have now developed to the point of practical application their processes for the production of concrete with high strength at very early ages. M. Freyssinet's process is being applied to *in situ* concrete in France and Germany, and results in concrete with strengths as high as 20,000 lb. per square inch in compression. M. Mopin's system is being used for the manufacture of large pre-cast concrete units which can be turned out of the moulds immediately they are cast; these slabs have been used for the large blocks of flats at Drancy and elsewhere in France. The two processes are described in the following notes.

Mons. Freyssinet's Process.

The principles involved in the manufacture of M. Freyssinet's high-strength concrete are the use of the lowest possible water-cement-ratio, high proportions of fine and very fine aggregates, and vibration followed by compression to eliminate the water films. The results are concrete having a comprehensive strength of 14,000 lb. per square inch two or three hours after the set begins when aluminous cement is used, and similar results in 12 to 24 hours with Portland cements. Moreover, if vibrated and compressed concretes are heated to 212 deg. F., a strength of more than 5,000 lb. per square inch can be obtained in less than two hours in concrete made with Portland cement, and ultimate strengths of 17,000 to 21,000 lb. per square inch are reached. Initial tension is applied to the reinforcement to induce compression in the concrete, and here M. Freyssinet has made a notable advance in decreasing the deformation in the concrete and steel and preventing fissuring. For instance, a reinforced concrete pipe of 17 in. internal diameter and 1⅜ in. thick made by this process will withstand pressures up to 1,250 lb. per square inch six hours after manufacture. The remarkable economy of the method of construction is illustrated by an I-girder 65 ft. 6 in. long, 2 ft. 9 in. to 3 ft. 10 in. deep, with a 6-in. web. The girder weighed 150 lb. per foot run. With a total test load of 940 lb. per foot the reinforcement was stressed to 78,000 lb. per square inch and the concrete to 2,056 lb. per square inch in compression. The measured deflection was equivalent to that in a similar and similarly loaded steel girder with stresses of 7,100 lb. per square inch. Although submitted to alternate application and release of the test load, no signs of fatigue appeared. It is estimated that a similar girder with a span of 327 ft. and an average depth of one-twentieth of the span would carry a useful load of 300 tons, and would have a factor of safety of two on the steel and four on the concrete.

At the Marine Station, Havre, where the buildings were settling at the rate of $\frac{7}{7}$ in. to ¾ in. a month, the new method of construction was successfully applied to transmit the loads to a firm stratum 65 ft. below the toe-level of the original piles and approximately 100 ft. below ground level. Between the footings of each row of transverse columns, lightly reinforced mass concrete was placed so as to obtain a continuous beam from side to side of the building. In these beams a general compression was induced by steel tie-rods stressed to between 75,000 and 85,000 lb. per square inch. Between the columns, circular vertical openings with horizontal grooves were boxed out of the new concrete, and through each opening a pile was sunk by hydraulic jacks. The piles are hollow cylinders with external and internal diameters of 24 in. and 15 in. respectively, and were manufactured above ground by a continuous process. Although the reinforcement in each pile is only about 7 lb. of steel per foot run, the piles are made to carry 300 tons and have a bending moment of 160 ft.-tons. During the manufacture of the piles the stress induced in the longitudinal bars was close to the elastic limit. The cement used was a special brand for work which is required to set in sea-water, and which generally gives a low crushing strength. Notwithstanding the compression induced by pre-stressing steel and the pressure required to jack down the piles, it was found possible to sink them while the concrete was less than eight hours old. In four working days a length of 100 ft. of pile was manufactured and sunk.

The remarkable strength of the new concrete at early ages is the result of the application of five methods of obtaining high-strength concrete or expediting the hardening process, namely, low water-cement-ratio, vibration, compression, heating, and tensioning the steel reinforcement.

The following notes are abstracted from a paper recently read by M. Freyssinet, and give some new ideas on the properties of concrete discussed in the course of the author's investigations :—

Moderate heating accelerates hardening, but if the heating is too intense the strength of the concrete becomes very irregular or may be destroyed. On the other hand, very compact concretes, particularly those obtained by vibration followed by compression, withstand very severe heating without special precautions. If vibrated and compressed concretes are heated to 212 deg. F., hardening becomes almost instantaneous and their quality is permanently improved. A strength of about 5,250 lb. per square inch may be obtained in less than two hours after mixing concrete made with ordinary Portland cement. When heating is discontinued, the increase in strength continues and follows a law very similar to that relating to a non-treated concrete, reaching very high figures which are limited only by the strength of the aggregates used. It is easy to reach from 17,000 to 21,000 lb. per square inch.

At a cost very little greater than that of mild steel, special steel is obtainable having a tensile breaking stress about 140,000 lb. per square inch, and an elastic limit which may be raised above 110,000 lb. per square inch by cold drawing. By hardening and annealing followed by a further cold drawing, it is possible to raise the elastic limit to 185,000 to 198,000 lb. per square inch at a cost of 7s. or 8s. per ton. As steel with an elastic limit of about 34,000 lb. per square inch is used almost exclusively to-day, it is clear that the ratio $\frac{\text{cost}}{\text{elastic limit}}$ may be reduced to about one-fifth of its present value, the reduction being still greater in the case of big spans owing to the saving in dead weight which it would procure. But replacing, in an ordinary reinforced concrete structure, mild steel by steel with an elastic limit of 185,000 lb. per square inch would lead to disastrous fissuring of the concrete as soon as the structure was subjected to a load causing steel stresses decidedly higher than those adopted for mild steel, so that the structure does not benefit appreciably from the use of high-tension steel. This is because in ordinary reinforced concrete structures the deformation of the concrete is practically equal to that of the steel subjected to the whole of the tension, and the deformation grows in proportion to the stresses, Young's modulus being independent of the special quality of the steel.

The limits of elongation tolerated for concrete are already fully attained with the usual working stresses allowed for mild steel, and consequently the use of high-tension steel working in tension adds very little in practice to the strength of a reinforced concrete structure. On the other hand, the improvement obtainable by mechanical means in the compactness of concrete increases the strength in compression up to the strength of the aggregate itself. As it is possible to use aggregates with a crushing strength of 21,000 lb. per square inch and more, it follows that the ratio $\frac{\text{unit cost of concrete}}{\text{crushing strength}}$ may also be reduced to about one-fifth of its present value. For such concrete the ratio of the elastic limit to the density is very much higher than with ordinary steel, and is nearly equal to the corresponding value for the highest qualities of aviation metals, especially if one takes into account the extra weight of fishplates, links. etc., which does not occur in the case of concrete.

In practice, the steel is tensioned by the action of jacks held against suitable abutments. The concrete is then placed and allowed to acquire sufficient strength adequately to grip the ends of the bars, after which the jacks are released. The steel reinforcement then tends to shorten, thereby inducing in the concrete a compression equal to the tension which had been imposed on the steel.

Generally, M. Freyssinet uses tensions calculated to leave in the steel permanent tensions between one-half, and two thirds of the elastic limit of the metal, which has been limited to 113,000 to 127,000 lb. per square inch. It is intended to use much higher elastic limits.

Two telegraph posts 40 ft. long, each fixed over a length of 6 ft. 7 in. from the base, one (A) in pre-stressed concrete, and the other (B) in ordinary reinforced concrete, were subjected to alternate stressing. Post A, five months old, weighed 1,650 lb. with 110 lb. of reinforcement; post B, 18 months old, weighed 2,150 lb. with 286 lb. of steel, the quality of the steel in both cases being about the same. Identical posts broke under a pull of about 2,000 lb. for both kinds of posts. During the test for repeated stressing the load applied at the head varied from —1,000 to +1,000 lb. at the rate of about eight times per minute. At the beginning the deflection of post A was half that of post B. After a few hundred alternate deflections post B was considerably fissured, and it broke entirely after a few thousand, whereas post A was subjected to 500,000 alternations without alteration.

M. Mopin's Process.

Remarkable results have been achieved by M. Mopin in the rapid production of pre-cast concrete units by a system of vibration which, with suitably graded aggregates, gives to the concrete a gelatinous nature which allows it to be turned out of the mould immediately without damage. One mould can therefore be used for a very large daily output. As soon as the mould is filled it is turned over on the floor and the mould lifted off without being dismantled, cores and blocking-out pieces coming away with the base and sides of the mould. During the last eight years a number of large housing schemes have been carried out in France on this system, of which the principal features are a light structural framework of steel units with pre-cast concrete floors, walls, partitions, staircases, balconies, larders, linen cupboards, etc. As a rule there is no need to dismantle the outsides of the moulds; thus the cost of handling them is reduced. Holes in transmission line poles are made by permanent cores. Part of the chamfers are obtained by movable pieces which are at once put back into the mould; the pegs which produce the holes for fixing the cross arms on poles are treated in a similar manner.

A mixture of aggregate, sand, cement, and water gauged semi-wet is placed in a watertight mould. The mould is filled, the reinforcement being placed in position either before or while it is being vibrated. The concrete settles, driving the excess water and air to the top, and before setting commences the concrete attains a gelatinous plastic state. In this state it has the remarkable property of being able to be turned out of the mould by inverting the latter and lifting it away. The concrete retains the exact shape of the inside of the mould, and after the final set in ordinary conditions in free air undergoes no shrinkage or sensible change of

shape. While in the plastic gelatinous state it is deformable, like rubber or jelly, and no crack, chipping, or other defect occurs after the final set. If damage should occur owing to turning out the concrete roughly or due to defects in the moulds, it can be repaired without leaving any permanent marks on the products. The density and strength of concrete products made by this process are much higher than those made in other ways, and they may be reinforced if necessary.

The proportions of the aggregates used depend on their grading and their nature; whether they are siliceous, round gravel, or broken stone. The proportion of cement depends on the use to be made of the product. For equal strength it is always less than is required with ordinary concrete. The quantity of water to be used is greater than is necessary to hydrate the cement, and is approximately the same as is required to obtain a plastic concrete. If too much water is used the excess is easily removed by prolonging the vibration. If there is not enough water none comes to the surface.

The length of time during which vibration is to be carried on depends on the size of the products being made, the nature and magnitude of the vibrations, and the mix and nature of the concrete. As an example and without laying down strict limits, the following are suitable figures when mechanically driven vibrating tables or electric vibrators are used with a concrete containing 770 lb. of ordinary Portland cement, 11.8 cb. ft. of sand between $\frac{1}{50}$ in. and $\frac{1}{8}$ in., and 5.9 cb. ft. of gravel between $\frac{1}{8}$ in. and $\frac{5}{16}$ in., when gauged with about 6 per cent. by weight of the materials of water.

The time of vibration necessary for a reinforced ribbed floor slab 36 in. by 20 in., containing 0.46 cb. ft. of concrete and weighing 60 lb., is from 25 to 30 seconds. The daily eight-hour output by one skilled man and two labourers with two double moulds and a vibrating table is 350 to 400 slabs in ordinary conditions. The time necessary for vibrating a reinforced tee-beam 13 ft. long, containing 1.76 cb. ft. and weighing 275 lb., is from 1½ minutes to 2 minutes. The eight-hour production of one skilled man and three labourers with a vibrating table and two moulds is 90 to 100 beams. Reinforced concrete transmission-line poles 40 ft. long weighing a ton require to be vibrated for 5 to 6 minutes, and are made at the rate of 30 to 35 daily. Pierced fencing panels 6 ft. 6 in. by 4 ft. weighing 220 lb. are made at the rate of 40 to 50 daily by two men, and require to be vibrated for 3 to 4 minutes each. These rates of production can be increased by installing plant to distribute the concrete in the moulds and by mechanical handling of the products.

The advantages claimed for this method are (1) continuous repetition in the use of the moulds and a high output, (2) reduction in weight and cost accompanied by high strength, and (3) reduction in the influence of the cost of price of the moulds. Another advantage is that the quality of the products can be guaranteed, for they can only be turned out of the moulds undamaged if they have been properly made. Any kind of cement, depending on the strength required, can be used. At present M. Mopin uses Portland cement almost exclusively, but high-strength cements are used when necessary. Aluminous cements are only used if there is need of a very high strength or extra rapid hardening to facilitate handling the products and putting them in position.

No curing chamber is required. Instead the products are placed on a level concrete floor and exposed to the air directly after being removed from the moulds. In eight to twelve hours after being taken from the moulds they can be handled, turned over, and stacked. This time depends on the proportions of the concrete, the kind of cement used, and the air temperature. In winter the factory is heated so that the temperature of the area where the moulds are removed does not go below 36 deg. F.

MORE HOUSING RECORDS

THE Minister of Health, Sir Kingsley Wood, has published a return* of housing and slum clearance progress showing the position at September 30 last, and including full particulars of housing both by public and private agencies since the Armistice. The return records that 3,146,946 new houses have been built in England and Wales since the Armistice, and discloses steady progress in the production of houses by private enterprise and in the housing and slum clearance activities of local authorities.

The total number of houses completed during the year ended September 30 last was 339,538—a record for any year, being 10,000 more than the previous high record for any yearly period.

The total number of houses completed by private enterprise during the year just misses beating the record for the previous year—274,348, as compared with 275,069 for the year ended September 30, 1935. The number of houses included in this total, which were completed during the six months April 1-September 30 was 127,727, which is 2,000 more than for the half-year ended September 30, 1935, but 19,000 less than for the half-year ended March 31 last.

The number of houses built by local authorities during the past half-year is a high record for the period since the present returns were begun, being 36,756 compared with 36,737 for the half-year ended March 31, 1932. The number thus completed is 9,000 more than for the previous half-year.

Houses Built for Letting.

The proportion of small houses provided by private enterprise remains unreduced; proportionately the number of houses built for letting is nearly 38 per cent. as compared with 35 per cent. for the half-year ended September 30, 1935.

Progress at the final—and effective—stages of slum clearance is shown by the increasing number of new houses completed under the Act of 1930 and of houses demolished.

During the year 45,148 houses were demolished (24,023 during the last half-year) as compared with 30,890 in the previous year.

During the year 49,227 houses were completed under the Act of 1930 (28,445 during the last half-year) as compared with 32,915 during the previous year.

The return concludes with a table (Table IX) showing the number of houses provided during the past half-year by local authorities and private enterprise separately for each county borough, and for the larger areas in each administrative county.

G.W.R. SCHEMES IN SOUTH WALES SPECIAL AREA.

The G.W.R. have decided to establish a £100,000 centre in the South Wales Special Area for all repair and painting work required for the carriage stock in that area. Plans have been completed for the erection at Caerphilly, in Glamorgan, of extensive workshops and plant. They will comprise a carriage lifting shop, 30,000 sq. ft. in area, where it will be possible to deal with 50 coaches at a time; another workshop of similar dimensions for all other repair work and for carriage painting; additional buildings covering an area of 26,000 sq. ft. for the same purpose; and stores and offices necessary for these extensions.

The G.W.R. have made known a further scheme to assist the Special Area, to take the form of carriage holding sheds at Cherry Orchard, between Caerphilly and Cardiff, to accommodate more than 100 coaches. Seven long sidings will be constructed, 1,000 ft. of which will be covered by sheds. The total width of the building will be nearly 100 ft.

* Housing (House Production, Slum Clearance, etc., England and Wales). Position at September 30, 1936. Published by the Stationery Office (price 4d.).

LAW REPORT

CHANCERY DIVISION.

BEFORE MR. JUSTICE FARWELL.

SEQUEL TO SWINDON BUILDING DISPUTE.

Wiltshire Bacon Co., Ltd., v. Associated Cinema Properties, Ltd.

This action, which was brought by the Wiltshire Bacon Co., Ltd., for an injunction restraining Associated Cinema Properties, Ltd., from erecting a cinema in Regent-street, Swindon, so as to cause a nuisance or illegally obstructing certain ancient lights of the plaintiffs, raised a question of some interest, and arose in the following circumstances: In March, 1936, negotiations began between the parties with a view to arriving at a settlement of the dispute which had arisen, but no agreement was come to. Upon the ground, as the plaintiffs alleged, that the defendants began to rush up their cinema, plaintiffs issued the writ in the action and served the defendants with notice of motion for an interlocutory injunction. The defendants paid into court £300, as being sufficient compensation to the plaintiffs, and the latter took out that sum in satisfaction of their claim. That in the ordinary way would have put an end to the litigation, but defendants refused to pay the costs of the motion for an injunction which came before the Vacation Judge on October 7, and they claimed an inquiry as to damages on the ground that an undertaking given by them on that occasion had delayed the completion of the cinema, which had been arranged to open on January 18, 1937. The undertaking which the defendants gave was not to put on additional workmen or increase the rate of construction of the cinema until judgment or further order, and an order was made for an early trial of the present action on the issues raised.

The defendants' case now was that the negotiations prior to the issue of the writ proceeded solely on the lines of what monetary compensation should be paid to the plaintiffs, no mention being made of an injunction or the stopping of the building before the writ was issued. The plaintiffs, it was asserted, knew of the importance of the building being completed by January 18, and in these circumstances defendants alleged they were entitled to an inquiry as to what damages they had suffered through the delay caused in the completion of the cinema by the undertaking given on the motion in the Vacation Court.

At the conclusion of the arguments of Mr. Andrew Clark, for the plaintiffs, and Sir Herbert Cunliffe, K.C., for the defendants, his lordship held that the taking out of Court by the plaintiffs of the £300 must be taken as an admission by them that it was not a case which entitled them to an injunction. In the circumstances, he held that the defendants were entitled to an inquiry as to the damage (if any) they had sustained as a consequence of the undertaking and the delay in the completion of the cinema.

Order accordingly.

Birmingham Civic Society.

The Report of the Birmingham Civic Society for 1935-36 contains ample evidence of a busy and useful year's work. The general aims are to stimulate historical interest in the city, to preserve objects of beauty, and to work for a more beautiful city. The Society has a strong council, which has concerned itself during the year with such matters as street furniture, the preservation of old buildings of historical interest, the design of two bridges proposed over the River Rea, and much else. The gold medal of the Society has been presented to Mr. Harry Vincent, in recognition of his valuable services and generous gifts towards the foundation and building of the new Hospital Centre at Bournbrook.

INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

We do not undertake to reply to inquiries concerning proprietary materials.—ED.

QUESTIONS.

Waterproofing a Porous Brick Wall.

SIR,—I have a wall (9 in. solid) of a soft red brick which, although it has been treated with boiled oil, is still inclined to be damp after prolonged rain. Would you please be good enough to advise me as to whether there is an outside waterproofing material which would effect a cure? I would like to avoid painting the wall with ordinary paint if possible. R. G. N.

Waterproofing a South-west Wall.

SIR,—I should be very grateful if you would give me information as to the treatment of a south-west wall, the inside of which becomes damp and discoloured after a driving rain. Only the first-floor wall is affected, the lower portion of the wall apparently remaining quite dry. Your readers' advice would be valuable. E. J. B.

ANSWERS.

Weatherproof Roof Tiling.

[ANSWER TO "GRANNY BONNET," DECEMBER 18.]

[A reply to this correspondent from the Clay Products Technical Bureau of Great Britain has been forwarded.— ED.]

Enforcement of Penalty under Contract.

[ANSWERS TO "TRANSIT," JANUARY 1.]

SIR,—The question as to whether *B* has suffered any loss or not by the delay is entirely beside the point. The penalty is defined under the R.I.B.A. Contract as "Assessed and Liquidated Damages." This means that the parties agree, when entering into their contract, that the likely damages that will be suffered by one party by delay in completion shall be assessed at so much, and that the payment of this assessed sum shall liquidate any damages that may arise. If the actual damages were more, no more than these assessed and liquidated damages could be claimed; and if less, their full amount is still due.

The contract does, however, provide for this clause to be inoperative in whole or part if any delay arises through causes outside the contractor's control, other than the normal interruptions and disabilities under which building by its nature suffers. If *A* can show that delay was caused through an unreasonable delay in connecting up the electricity supply, so as to disorganise the job and prevent his completing by the contract date, those circumstances would have to be taken into consideration in assessing how much, if any, of the penalty should be enforced. Variations, if they amount to a substantial increase in the amount of work to be done, or if they disorganise the building process in any material sense, would also give just claim for an extension of time, and, if sufficiently extensive, for the waiving of the penalty.

The circumstances of the case must be carefully reviewed, and if there is an architect, as may be presumed under an R.I.B.A. contract, it is his function to give his ruling, which the parties must accept if it is given with due skill and in good faith.

CONTRACT.

SIR,—If "B" has carried out the agreement it is not necessary for him to prove actual damage. He can recover damages (since they are liquidated damages) for non-completion to time at "10s. per week for each house" as per contract. Of course, if "A" can prove what he alleges, then damages for delay are not recoverable to the same extent. "A" must allow for the delay in fact caused "B." From the particulars this matter seems one for arbitration in accordance with the terms of the contract. LEX.

Plywood.

[ANSWER TO "MODERN," DECEMBER 25.]

SIR,—Although plywood is frequently used for flush doors in modern buildings, for which it is admirably suited, it is not to be recommended for doors where it is likely to be in contact with the weather. An exceedingly good flush finish can, however, be obtained on plymax, and this material would be quite suitable for an exterior door. Plymax flush doors are obtainable in various heights and widths and with metal (galvanised steel, copper, aluminium, stainless steel, etc.) on both sides, or with wood one side and metal the other. Alder and ornamental veneers are usually used on the wood side of these flush doors. A. J. T. E.

Soundproofing a Party Wall.

[ANSWER TO "M. H.," DECEMBER 25.]

SIR,—There are several special methods and materials for effectively soundproofing a party wall. One modern insulating material for the absorption of sound is made in the form of plates or slabs, and consists of several layers of corrugated paper, impregnated with bitumen, the insulation being secured to the wall which receives the most sound. With regard to the insulation of the floor against transmission of sound, the insertion of thin insulating mats under the linoleum or parquet flooring considerably reduces the sound transmission. A. J. T. E.

Pipes and Frost.

[ANSWER TO "HOUSEHOLD," DECEMBER 25.]

SIR,—Galvanised steam quality pipes are no more a safeguard against the risk of burst pipes in the event of very severe frost than red steam-quality pipes, and the cost of the former is approximately 15 per cent. greater. The galvanising of steam pipes does not as a rule either increase or decrease the strength of the material. The object of galvanising is merely to add a thin coating of zinc to the pipes in order to prevent atmospheric corrosion, which has a very marked influence on iron and steel unless protected by some means. A. J. T. E.

Down-draught and Chimney-pots.

[ANSWERS TO "W. F. P.," DECEMBER 11.]

SIR,—Defective chimneys are always difficult to cure unless the cause is obvious, such as straight flues, or long flat bends. If the trouble is that of a straight flue, the only permanent cure is to cut out the face of the chimney breast and reform the flue with a good double sweep. Where the cause is some complicated accident of external air currents the remedy is not so simple to find, though possibly cheaper to cure if the right thing is luckily found without much experiment. In the present case, trial might be given to a revolving cowl as an inexpensive experiment.

With regard to the second part of your correspondent's query, the use of a coke or anthracite stove in a chimney subject to down-draught is extremely risky, since without the warning of smoke the invisible and odourless fumes of carbon monoxide will prove dangerous to health, if not to life in extreme cases. FLUES.

SIR,—The simplest and most effective method of treating the joints between brickwork and oak (after thoroughly raking out the joints) is to work well in a suitable colloidal bituminous plaster. Although lead has been dressed down over the oak beam, it is advisable to coat the oak well and the interior of lead work with a bituminous paint or other protective coating as a protection against capillary attraction or possible chemical action by the oak. With regard to covering the face of the brickwork for preventing the percolation of rain through the wall, there are several different remedies, such as weather tiling, cement rendering, tarring, and the application of waterproofing solutions. Of these, the best method is to render the brickwork with cement mortar, and if the cement is waterproofed it will be quite impossible for rain to percolate into or through the wall. A. J. T. E.

DIARIES AND YEAR BOOKS

WE have received a number of year books, diaries, etc., of which brief details are attached :—

THE IRONMONGERS DIARY.—"The Ironmongers Diary and Hardware Buyers' Guide" (now published from 28, Essex-street, Strand, W.C.2), is now in its 69th year. The present edition is extremely useful to builders' merchants and hardware buyers, as it contains a buyers' guide to hardware; classified list of trademarks and brands; directory of associations; data for domestic engineers; information on patents and trade marks, railway rates, and standards for building materials; and a register of over 2,000 proprietary names. In addition there are calendars for 1936-7-8, and full diary space for 1937.

"MECHANICAL WORLD" YEAR BOOK.—The 1937 edition (Emmott and Co., Ltd., 28, Bedford-street, W.C.2, price 1s. 6d.) has been thoroughly revised, and should be of considerable value to mechanical engineers, especially the section of selected B.S. mechanical specifications. A classified buyers' directory and diary for 1937 are other useful features.

"THE BLACK BOOK."—This is a newcomer to the ranks of commercial directories, a directory of solid fuel-burning appliances and associated equipment. The latest step in the campaign for the more efficient use of coal, the directory has been compiled by the Combustion Appliance Makers' Association (Solid Fuel) and is the first comprehensive guide to the vast network of associations, firms and interests engaged in the manufacture and distribution of industrial or domestic coal-burning appliances. An idea of the extent of this industry is conveyed by a classified list of appliances, register of proprietary names, and index of the names and addresses of manufacturers, the last two of which contain 2,570 and 1,000 items respectively. There is a "Who's Who" of solid fuel and allied industries, full particulars of interested trade associations and technical articles on various aspects of solid fuel production and consumption. The book is published, with a Foreword by the Secretary for the Mines Department, by Morgan Bros. (Publishers), Ltd., 28, Essex-street, London, W.C.2, at 7s. 6d.

Other Diaries and Calendars.

We acknowledge with thanks the receipt of a diary (containing data of considerable value to the structural engineer) from the Tunnel Portland Cement Co., Ltd.; a neatly bound diary from Mr. Walter Taylor, the Coulsdon and Belmont builders' merchant; a useful diary, containing steelwork data, from Messrs. Braithwaite and Co., Engineers, Ltd.; and calendars, etc., from Messrs. Francis Draper; Holophane, Ltd.; Tube Products, Ltd.; Messrs. Gale and Polden, Ltd. (calendar and retrospect sheet with principal events of 1936); Messrs. Flowerdew and Co., Ltd.; Messrs. Wm. Boyer and Sons, Ltd.; Messrs. J. Alfred Pratt and Co. (1928), Ltd.; the Stanton Ironworks Co., Ltd.; and Messrs. W. H. Willcox and Co., Ltd., the engineering suppliers.

International Association for Testing Materials.

The Congress of this Association will be held in London from April 19 to 24, 1937. The object of the congress is to obtain international co-operation in the study of materials and their testing, and to provide facilities for the exchange of views, experience and knowledge with regard to all matters connected with this subject. The London Congress will be of considerable scientific and industrial importance, particularly in view of the length of time which has elapsed since the study and testing of materials were last reviewed on an international basis. H.R.H. the Duke of Kent has consented to be patron of the Congress, and Sir William Bragg, O.M., K.B.E., President of the Royal Society and Director of the Royal Institution of Great Britain, President.

THE BUILDING TRADE

BUILDING LAWS AND REGULATIONS—II

By B. PRICE DAVIES, F.S.I.,
(Author of "Estimating for Buildings and Public Works," etc.)

SECTION 78 of the Housing Act of 1936 is of interest in connection with housing. It relates to water supplies and is associated with Section 108 of the Housing Act of 1925 and the Fifth Schedule of the Housing Act of 1930. It is as follows :—

78. (1) *A local authority or a county council may, notwithstanding anything in section three hundred and twenty-seven or section three hundred and thirty-two of the Public Health Act,* 1875, *but subject to the provisions of section fifty-two of that Act, be authorised to abstract water from any river, stream or lake, or the feeders thereof, whether within or without the district of the local authority or the county, for the purpose of affording a water supply for houses provided under this part of this Act, and to do all such acts as may be necessary for affording a water supply to such houses, subject to a prior obligation of affording a sufficient supply of water to any houses or agricultural holdings or other premises that may be deprived thereof by reason of such abstraction, in like manner and subject to the like restrictions as they may be authorised to acquire land for the purposes of this part of this Act;*

Provided that no local authority or county council shall be authorised under this section to abstract any water which any local authority, corporation, company, or person are empowered by Act of Parliament to impound, take, or use for the purpose of supply within any area, or any water the abstraction of which would, in the opinion of the Minister, injuriously affect the working or management of any canal or inland navigation.

(2) *Any expenses incurred by a local authority under this section in connection with any houses provided or to be provided shall be treated as part of the expenses of providing those houses.*

Section 188 of the same Act defines "absence of adequate and readily accessible water supply" as a sanitary defect.

The supply of water to buildings other than houses is a matter of great importance, and this was partly discussed in the part of the series dealing with commercial and industrial buildings. (See *The Builder*, February 7, 1936, and subsequent issues.)

The provision of water-closets to all classes of buildings is the means of installing some means of water supply in a building; this point will be dealt with in connection with sanitary conveniences, but it may be pointed out that water which is suitable for water-closets may not be suitable for drinking purposes.

So far as the writer can ascertain, there is no specific demand in the Public Health Acts which requires a water supply for drinking purposes to be provided for a lock-up shop, office or warehouse. It is claimed occasionally that "house," used in its extended definition in the Public Health Acts, includes a shop or office, but this is doubtful.

Section 30 of the Memorandum on the Shops Act, 1934, requires the provision of sanitary conveniences and washing facilities to a shop, and by Section 1 of the Act, shops are classified as follows :—

(*a*) *Retail Shops, i.e., any premises where any retail trade or business is carried on.*

(*b*) *Wholesale Shops.* "*Wholesale Shop*" *means* "*premises occupied by a wholesale dealer or merchant where goods are kept for sale wholesale to customers resorting to the premises.*" *The effect of the definition is to limit the application of the Act to wholesale shops which are of the nature of shops in the ordinary sense of the term and to exclude premises occupied by wholesale dealers or agents where orders are received and sales take place but in which no goods (except possibly samples) are kept.*

(*c*) *Warehouses occupied by retail traders or wholesale dealers for the purposes of their trade. Such warehouses come within the Act, whether or not they are connected with a retail or wholesale* "*shop.*" *The Act does not apply to* "*warehouses occupied for other purposes, e.g., for the purposes of a railway and transport undertaking or of a manufacturing business.*"

It will be observed that under (*c*) the provisions are limited to certain warehouses only, and they do not apply to a warehouse occupied for the purpose of a railway and transport undertaking or a manufacturing business, but the Factory and Workshop Regulations would apply to the latter. An office is not apparently affected by either Act.

SANITARY ACCOMMODATION FOR BUILDINGS.

The Sections of Acts dealing with this subject were repealed by the Public Health Act of 1936. They are Section 36 of the Public Health Act of 1875; Sections 23 and 24 of the Public Health Acts Amendment Act of 1890; and Section 39 of the Public Health Acts Amendment Act of 1907.

In view of this change, it has been found necessary to re-write this part of this series of articles and to introduce several sections of the Public Health Act. Such sections deal with buildings in a general way rather than sanitary accommodation for houses.

This part of the series of articles will therefore take up an amending line with reference to sanitary accommodation for buildings previously dealt with.

Section 43 of the Act is as follows :—

"43. (1) *Where plans of a building or of an extension of a building are in accordance with building by-laws deposited with a local authority, the authority shall reject the plans unless either the plans show that sufficient and satisfactory closet accommodation consisting of one or more water-closets or earth-closets, as the authority may approve, will be provided, or the authority are satisfied that in the case of the particular building or extension they may properly dispense with the provision of closet accommodation.*

Provided that—

(*i*) *unless a sufficient water supply and sewer are available, the authority shall not reject the plans on the ground that the proposed accommodation consists of or includes an earth-closet or earth-closets; and*

(*ii*) *if the plans show that the proposed building, or, as the case may be, extension, is likely to be used as a factory, workshop or work-place in which persons of both sexes will be employed, or will be in attendance, the authority shall reject the plans unless either the plans show that sufficient and satisfactory separate closet accommodation for persons of each sex will be provided, or the authority are satisfied that in the circumstances of the particular case they may properly dispense with the provision of such separate accommodation.*

(2) *Any question arising under this section between a local authority and the person by whom, or on whose behalf, plans are deposited as to whether—*

(*a*) *the provision of closet accommodation, or, as the case may be, the provision of separate closet accommodation for persons of each sex, may properly be dispensed with, or*

(*b*) *the accommodation proposed to be provided is sufficient and satisfactory, or, as the case may be, sufficient and satisfactory for persons of either sex; or*

(*c*) *the provision of an earth-closet in lieu of a water-closet should in any particular instance be approved*

may on the application of that person be determined by a court of summary jurisdiction."

It will be observed that emphasis is laid concerning the rejection of plans complying with by-laws if this Section is not complied with. The local authority have power to decide what is "sufficient and satisfactory closet accommodation"—not only for houses but for any buildings. The local authority will probably be guided by standards previously referred to, but they have the power to demand a standard which will satisfy them as being "sufficient and satisfactory."

The provisos require the demands to be on practicable lines, but separate accommodation for sexes in factories and workshops is not lost sight of. The owner is given a chance of appeal.

In connection with this Section, the installation of a water supply to premises may be demanded in order to instal water-closets, but a "sufficient water supply and sewer" are to be available before this standard of sanitary convenience can be demanded. Failing this, earth-closets are to be allowed. The subject of sufficient water supply has been discussed in a preceding part of these articles, and the same term as applied to sewer will be dealt with later, when sewers will be specially discussed.

(To be continued.)

COMPARATIVE PRICES OF MATERIALS

FOLLOWING is a comparison of the prices of some leading materials at January 1, 1936, and 1937 :—

	January 1, 1936.			January 1, 1937.		
	£	s.	d.	£	s.	d.
Bricks—						
Stocks	4	2	0	4	2	0
Flettons	2	8	3	2	6	3
Glazed	21	0	0	23	0	0
Thames Ballast	0	7	0	0	7	3
Pit Sand	0	8	0	0	7	9
¾ in. Shingle	0	7	3	0	7	3
¾ in. Broken Brick	0	11	0	0	11	3
Portland Cement	1	19	0	1	19	0
Ground Blue Lias Lime	1	17	6	1	17	6
Bath Stone	0	2	10	0	2	10
Portland Stone	0	4	4½	0	4	4½
Building Timber—						
4 in. × 11 in.	23	10	0	23	10	0
3 in. × 11 in.	19	10	0	21	0	0
3 in. × 9 in.	19	10	0	19	10	0
3 in. × 7 in.	18	0	0	18	10	0
3 in. × 4 in.	17	10	0	18	10	0
Slates (per 1,000)—						
24 in. × 12 in.	29	15	0	29	15	0
20 in. × 10 in.	19	7	6	19	7	6
16 in. × 10 in.	13	10	0	13	10	0
Tiles—						
Machine made	4	2	6	4	2	6
Hand made	4	10	0	4	10	0
R.S. Joists	12	0	0	13	10	0
Iron—						
Common Bars	11	0	0	10	10	0
Mild Steel Bars	11	0	0	12	5	0
Sheet Lead	23	10	0	37	5	0
Raw Linseed Oil	0	3	2	0	3	2
Turpentine	0	4	4	0	4	2
Ground English White Lead	51	0	0	60	0	0
White Lead Paint	70	0	0	79	0	0
Red Lead	37	0	0	49	0	0
Glass—						
15 oz. sheet			2⅜			2⅜
21 oz. ,,			3⅝			3⅝
26 oz. ,,			4¼			4¼

THE ESTATE MARKET IN 1936

Messrs. John D. Wood and Co., auction, estate, valuation and survey experts, write :—There has been a steady increase in the cost price of buildings throughout the year, though rents have not risen in the case of property built to be let. They ought to have done, but the progressive rise of rates and taxes has set a limit to rents, inasmuch as rents are but one element in the total cost of a property to the tenant, and, if the public charges rise, the private return on property can seldom be safely advanced to a corresponding degree. Broadly speaking, the safe principle is a sound and satisfied tenant, paying a rent which represents a fair yield on the amount of capital invested by the owner. With rents fixed at a fair level, it is happily still true that that return exceeds what can be obtained in any other direction, and it is unnecessary to recapitulate obvious truths as to the stability of real estate, and the advantage it gives of being entirely under the owner's control.

The demand for first-rate investments in real estate has far exceeded the supply. The almost astronomical figures of the amounts on deposit with the great banks put the matter in its true perspective when it is remembered that most of the money on deposit earns only one-half of £1 per cent. per annum. The general level of interest on Government stocks is still falling. The absorption of funds in industrial and similar enterprises this year has made little perceptible difference to the flood of money awaiting use. Current conditions have helped the market for real property in another way, namely, in encouraging the thrifty classes to go in for buying their own houses, and this has enabled building societies and some insurance companies to utilise a little of their surplus funds. Indirectly, of course, it is material to any firm engaged in large transactions, for before row upon row of villas and shops can arise, the purchase of an extensive estate must be made. "Green belt" sales (about 45 square miles already) have poured large sums into the pockets of owners of properties suitable for public acquisition with an eye to the future.

On the latter point it may be pertinent to remark that the need for buying open spaces in and beyond the outer-suburban zone of London is only one indication of the formidable problems which the rapid growth of London is raising. The suggestion has lately been made that some means should be devised of restricting the development of any more land for factories in and near London. Economic movements such as "the Southward trend," which began to be noted three or four years ago, are hard to control. It is not for the want of special inducements in many of our manufacturing centres in the North and Midlands that business men have continued to show a marked preference for the capital, and the only surprising thing about the concurrent movement of the population towards London is that the influx has not been greater. London goes on growing, and while it grows land must be found for housing and industry, and the requisite sales or purchases provide agents with work of which they have no reason to complain.

Country Residences and Flats.

So many landed estates have in the last 25 years been broken up that there is a substantially narrowing choice for prospective purchasers of larger country property for residence. The mansion without an adequate area of diversified land is useless to the man of means and taste, and that has led to the demolition of many quite good houses, which had ceased to be attractive for any purpose. This year there has been little need to suggest that any really well placed property would be suitable for adaptation as a school or for institutional purposes. Plenty of buyers have been waiting for all the obviously attractive propositions. Rightly, much emphasis has been laid on the value of country land as an investment, but that has cut both ways, and one result has been a restricted supply, as a good many owners are preferring to offer tenancy of seats rather than sell them.

With regard to flats, the best answer to those who toy with hackneyed catchwords like "saturation point," is to point to the promptitude with which new accommodation is being taken. Flats may seem dear at first sight compared with the rentals of houses, but the tenants of the properly organised blocks are ready to pay something for being free from the cares of direct contact with builders and decorators, rate collectors, impecunious or unwilling landlords, and the other incidents of ordinary householding, and they find that a flat enables them to do with fewer servants.

The short supply of property in the open market always tempts some vendors to put a certain amount of rubbish up for auction. Take, for example, shops. It is safe to say that many of the shops that are offered for sale have nothing in respect of any business done in them that can possibly add a penny to their market value. As investments the only shops that are attractive are those in first-rate trading positions, and let at a rent that the trader can afford to pay. The "multiple" concerns can gradually command a monopoly of the likeliest shopping positions, and, as those concerns crowd out the old-established resident shopkeepers, the rental value of less favoured positions declines. The choicest position, plus the financial stability of the "multiple" trader, put the latter class of business on an entirely different plane from the shop of the individual trader (with no personal service to offer by reason of the nature of his premises) who has to face the competition of the companies.

BRITISH STANDARD SPECIFICATIONS

COPPER CYLINDERS FOR DOMESTIC PURPOSES.

The number of copper cylinders used for domestic storage purposes has increased extensively, particularly in view of the development of the electric immersion heater. The British Standards Institution has accordingly issued the above B.S. Specification, which will provide for cylinders of satisfactory quality.

The specification emphasises that the weight of a cylinder should not be regarded as a criterion of quality, and it is understood that this point has been made in view of the practice in some cases of "loading" cylinders—thus securing weight at the expense of the copper sheet used.

There are three grades of cylinders, which are differentiated by the thickness of the copper sheet used in the manufacture. This consequently limits the maximum working head of water with which they can be used. The appropriate test pressures are also laid down. The specification also includes appropriate requirements relating to the quality of the material, method of construction, attachment of bosses, etc.

Copies of the specification, No. 699—1936, may be obtained from the Publications Department, British Standards Institution, 28, Victoria-street, London, S.W.1, price 2s. 2d., post free.

AN ELECTRIC STUDY AND READING TABLE LAMP.

The specification for an Electric Study and Reading Table Lamp, just issued by the British Standards Institution, refers to a lighting fitting designed and used as a table standard. Its purpose is to provide suitable illumination for individual visual tasks such as ordinary reading, sewing, homework and the like, when equipped with 100-watt general service pearl electric lamp. It consists of a suitable base, stem and lampholder, a reflector or other device controlling the passage of light upwards and downwards and an outer shade, the inner surface of which has a high reflection factor.

Copies of the above specifications may be obtained from the British Standards Institution, Publications Department, 28, Victoria-street, London, S.W.1, price 2s. 2d. each, post free.

NEW CINEMAS

ACTON.—Messrs. Odeon (Acton), Ltd., Cornhill House, Bennett's-hill, Birmingham, have accepted the tender of Messrs. George Bollom and Sons, Ltd., 1a, Essex-road, Acton, W.3, for the erection of a cinema in King-street. The architect is Mr. George Coles, F.R.I.B.A., 40, Craven-street, W.C.2.

EAST MOLESEY. — Messrs. Bernstein Theatres, Ltd., 36, Golden-square, W.1, have acquired a site for the erection of a cinema. Plans have not yet been prepared.

LARNE.—The contract for the erection of the Union Cinema in Main-street has been given to Messrs. H. and J. Martin, Ltd., Belfast. The architect is Mr. Leslie H. Kemp, A.R.I.B.A., 10, Great James-street, W.C.1.

LUTON.—A site in Castle-street has been acquired for the erection of a cinema, with accommodation for about 2,000 persons. Plans have been prepared by Mr. A. Edwin Westerman, A.R.I.B.A., 11, Fenchurch-street, E.C.2. No contracts let.

MANCHESTER.—Plans have been approved by the T.C. for a cinema in Bradshaw-street and Denmark-street, Moss Side, for the Honywood Estates, Ltd. The architect is Mr. George M. Stone, 115, Chiltern-court, Baker-street, London, N.W.1.

NEWCASTLE-ON-TYNE.—Messrs. Longstaff and Bain, Denton-road, Newcastle-on-Tyne, have secured the contract for the erection of a cinema in Thorntree Drive. The architect is Mr. E. Burke, Singleton House, Northumberland-road, Newcastle-on-Tyne.

RHYL.—The contract for the Odeon cinema at the junction of Brighton-road and High-street has been placed with Messrs. C. Bryant and Son, Ltd., Whitmore-road, Small Heath, Birmingham. The architect is Mr. Harry W. Weedon, A.R.I.B.A., 84, Colmore-row, Birmingham, 3; and 7, Park-lane, London, W.1.

ROTHESAY.—A site has been acquired by the Palace Cinema Co. for the erection of a cinema and shops at the Ardbeg end of the promenade. The architect is Mr. Alexander Cattanach, Kingussie.

SOUTH QUEENSFERRY.—Plans have been prepared by Mr. Thomas Linton, 64, Craighall-road, Edinburgh, 6, for the erection of a cinema. No contracts let.

SUNDERLAND.—The contract for the reconstruction of the Theatre Royal, Bedford-street, into a combined cinema and theatre for Black's Northern Theatres, Ltd., Byker, Newcastle-on-Tyne, has been let to Mr. H. Waller, Back Waller-street, Newcastle-on-Tyne. The architect is Mr. E. M. Lawson, Barras-buildings, Barras Bridge, Newcastle-on-Tyne.

WINCHESTER.—The Rainsworth Estates, Ltd., have under consideration the erection of a cinema and car park in Middle Brook-street. Plans have been prepared by Mr. Leslie C. Norton, A.I.A.A., 45, Albemarle-street, W.1.

Companies' Surtax.

The third edition of Tolley's Surtax and Companies' Surtax Manual has just been published. Since the publication of the last edition there has been a large number of important cases in the courts on the subject of surtax, and the present edition contains references to about 170 decisions. The author has obviously been at considerable pains to explain the law and practice in a clear and lucid way, avoiding unnecessary technicalities and at the same time to be accurate in the language employed. The price of the new edition is 3s. 6d. (post free 3s. 7½d.), and it may be obtained either from Mr. Chas. H. Tolley, A.C.I.S., at 107, Tierney-road, S.W.2, or 18, Buckingham-street, W.C.2, or the publishers, Messrs. Waterlow & Sons, Ltd., London Wall, E.C., or through any bookseller.

NEW BUILDINGS IN LONDON

ACTON.—Flats.—Plans have been prepared by Mr. F. Gibberd, 29, Sloane-square, S.W.1, for 96 flats in Horn-lane, Creswell-road, and Julian-avenue, W.3.

ACTON.—Flats.—Plans have been prepared for the development of a large estate in The Vale, W.3, owned by the Goldsmiths' Company, by 252 flats. The architects are Messrs. Marshall and Tweedy, FF.R.I.B.A., 9-13, New Cavendish-street, W.1.

ACTON.—Shops.—And maisonettes are to be erected in South-parade and Beaconsfield-road, for the Palgrave Estates, Ltd., 3, Green-parade, Hounslow. The architect is Mr. T. Davies, 94, Welldon-crescent, Harrow.

BECKENHAM.—Alterations.—And additions are to be made to the public baths for the T.C. Mr. Percy Parr, B.Sc., Borough Engineer, has prepared the plans, and tenders are being invited.

BISHOPSGATE. — Rebuilding. — Messrs. Trollope and Colls, Ltd., 5, Coleman-street, E.C.2, are erecting the police head-quarters in Bishopsgate and New-street, E.C., for the City Corporation. The architects are Messrs. Vine and Vine, AA.R.I.B.A., Tudor-chambers, Station-road, Wood Green, N.22.

BROMPTON-ROAD.—Garage.—Mr. H. J. Starkey, 2, Dean Farrar-street, S.W.1, has prepared the plans for a new garage building to be erected over the private yard known as Fulham Bridge-yard. The builders are Messrs. H. and J. Taylor, Canada House, Hither Green-lane, S.E.13.

CHELSEA.—Flats.—Plans have been prepared by Mr. L. Klay Kaines, A.R.I.B.A., 17, Featherstone-buildings, Holborn, W.C.1, for a block of flats in Smith-street, S.W.3. No contracts placed.

CLERKENWELL-ROAD. — Alterations. — Are to be made to Nos. 97-99, to form branch post office, for H.M.O.W.

CROYDON.—Alterations.—And additions are to be carried out to the "Black Boy" public-house in Mitcham-road, for Messrs. Mann, Crossman and Paulin, Ltd., Whitechapel-road, E.1. The architect is Mr. William Stewart, F.R.I.B.A., 4, Aldgate High-street, E.C.2.

EAST BARNET.—School.—The Herts C.C. has informed the U.D.C. of their intention to provide a new public elementary school for about 250 junior children in Church Hill-road.

EDMONTON. — Building. — The U.D.C. has approved plans for combined dressing rooms for footballers and shelters for the public to be erected in the northern portion of Pymmes Park. Two buildings were suggested—one near the Victoria-road and Park-lane corner, and the other near Denton-road. Accommodation for about 80 players to be provided in each, and the estimated cost is £1,508 each.

EDMONTON.—Housing.—The U.D.C. has approved a scheme for 114 houses on the Slipes site, between Halsbury estate and Weir Hall estate. Application has been made to the M.H. for sanction.

ELTHAM.—Additions.—Mr. W. A. Sheddington, Construction Department, 311, Oxford-street, W.1, has submitted plans to the Woolwich B.C., on behalf of Messrs. F. W. Woolworth and Co., Ltd., for additions to the shop premises at 171-179, Eltham High-street, S.E.

ELTHAM.—Rebuilding.—Mr. R. J. Sargent, of Messrs. Royds and Co., 6, Queen-street, W.1, has prepared the plans for the rebuilding of 93-95, Eltham High-street. No contracts placed.

ENFIELD.—Buildings.—A company, to be called Enfield Enterprises, Ltd., is to be formed to carry out a large building scheme in Southbury-road, where it is proposed to build a large amusement centre, comprising exhibition hall, skating and boxing arena, dance hall, garage, showrooms, etc., the cost being estimated at £160,000. The plans have been prepared by Messrs. F. Boreham, Son and Wallace, 1, Museum-street, W.C.1. No contracts placed.

ENFIELD.—Extensions.—The General Purposes Committee of the T.C. has adopted a recommendation that the public offices adjoining the Enfield Highway Depot be altered so as to provide more accommodation for the public.

ESSEX.—Building.—The C.C. has recommended the following:—A swimming pool at the County High School for Girls, Woodford, at £4,931; amended sketch plans, for the enlargement and adaptation of the Woodford Bridge Council School, at £14,157; new operating theatres at Oldchurch Hospital, Romford, at £21,760, and alterations to provide corridors on each of the three floors of the new building, at £3,300; the County Architect to prepare plans and estimate of cost for a hospital for 200 recovery and convalescent beds upon the site at Hainault Lodge, Dagenham; the plans by the County Architect for a combined treatment centre in New-road, Brentwood, at £3,368 be approved, and tender invited.

EWELL.—Church.—The Ewell Congregational Church Trustees have acquired a site in London-road for a new church and schools. The plans have been prepared by Mr. F. Lawrence, F.R.I.B.A., Southbourne-road, Southbourne, Bournemouth.

HACKNEY.—Building.—The B.C. are inviting tenders for new office and store building at Rossington-street depot, a store building at Grove-lane depot, and a dispensary and depot at Hillman-street, E.8. Mr. Percival Holt, M.Inst.C.E., Borough Engineer and Surveyor, has prepared the plans.

HACKNEY.—Flats.—The B.C. are inviting tenders for a block of 50 flats in Shacklewell-lane, E.8. Mr. W. Lane, 8, Adam-street, Adelphi, W.C.2, is the quantity surveyor.

HANWORTH.—Shops.—And flats are to be erected on a site in Hampton-road to the plans of Messrs. P. Chase, Gardner and Co., High-street, Hounslow. No contracts placed.

HATTON - GARDENS. — Offices. — And showrooms are to be erected at Nos. 52 and 53, to the plans of Messrs. Lewis Soloman and Son, New Oxford House, Hart-street, W.C.1. The contract has been placed with Messrs. Trollope and Colls, Ltd., 5, Coleman-street, E.C.2.

HESTON.—Alterations.—Messrs. C. W. Glover and Partners, Shell-Mex House, Strand, W.C.2, are the architects for a new study block and alterations to the Borough-road College. A contract is about to be placed with the Parker Construction Co., Ltd., Shell-Mex House, Strand, W.C.2.

HESTON. — Extensions. — Mr. A. T. German, 94, Parkfield-avenue, Hillingdon Heath, Uxbridge, is the architect for factory extension, London-road. The builders are Messrs. Petty and Sons, 69, High-street, Hampton Hill.

HESTON.—Schools.—The T.C. has agreed that application be made to the M.H. to borrow £16,208 for the purchase of Barnes Farm, North Hyde-lane, for the erection of the new Norwood Green infants and junior school, and to borrow £5,714 for the purchase of land at the rear of Kingsley House and Derwent House, London-road, Spring-grove, for the erection of the new Spring-grove junior school.

HORNCHURCH.—Hall.—The U.D.C. has received an application from the Rainsford-way Section of the North-West Hornchurch Labour Party asking for permission to erect a hall in Laburnham-avenue.

HOUNSLOW.—Shops. — And showrooms are to be erected in High-street, to the plans of Messrs. John S. Quilter and Son, 3, St. James's-street, S.W.1. The contractors are Messrs. Hall, Beddall and Co., Ltd., Pitfield-wharf, Waterloo Bridge, S.E.1.

KENSINGTON.—Town Hall.—The B.C. has recommended that Mr. Percy E. Thomas, P.R.I.B.A., 10, Cathedral-road, Cardiff, be appointed to advise the Council in connection with the proposed erection of new municipal buildings and library on or near the site of the present town hall and library.

KILBURN HIGH-ROAD. — Flats. — The Central London Building Co., Ltd., 346, Kilburn High-road, N.W.6, are to have a shop and flats erected adjoining No. 377. The plans have been prepared by their own architectural staff.

LEE. — Flats. — Mr. H. Lidbetter, F.R.I.B.A., 20, Hanover-square, W.1, has prepared plans, on behalf of Messrs. C. and J. Edwards, of Woolwich, for 28 flats on the south side of Horn Park-lane.

MILL HILL. — Alterations. — H.M.O.W. have placed a contract with Messrs. Soole and Sons, Dunstable-works, Richmond, for alterations to the branch post office.

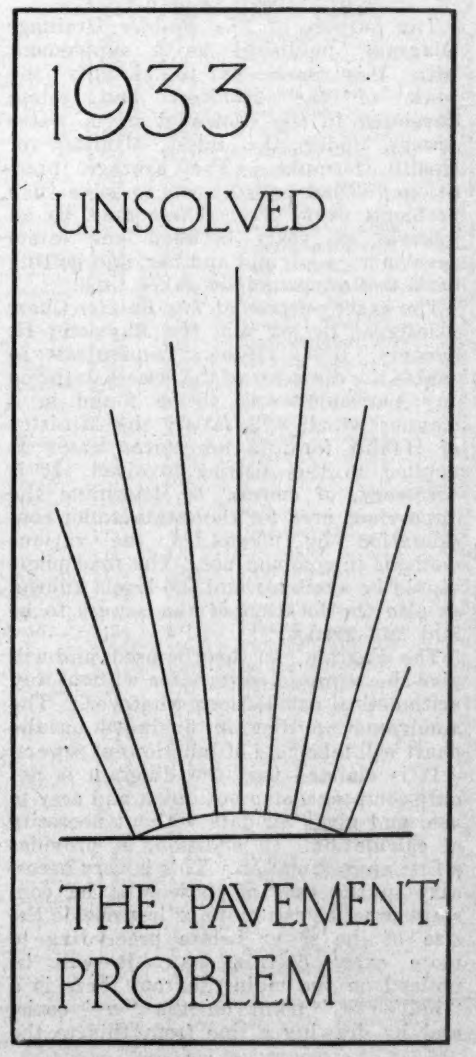
MORDEN.—Extensions.—Messrs. Reid and Sigrist, Ltd., Shannon-corner, Kingston By-pass, are to have their factory in Beverley-way extended.

MORDEN.—Shops.—And flats are to be erected in West Barnes-lane between Coombe-lane and Camberley-avenue. Mr. H. Kempton Dyson, Charlbert-court, St. John's Wood, N.W.8, is the architect for the buildings, which are to be three stories with flats on the first and second floors. No contracts placed.

NORTH ACTON.—Factory.—The Lancashire Dynamo and Crypto, Ltd., of Acton-lane, N.W.10, are to have a new factory erected in North Acton-road, N.W. The building is being erected by the Wesley Estates, Ltd., builders, 1, Wesley-avenue, N.W.10.

NORTH KENSINGTON.—Flats.—The Kensington B.C. are to erect 60 flats, five stories in height, on a site at South-row and Great Western-terrace. The whole scheme is to cost £55,000.

NOTTING HILL-GATE.—Improvements. —The L.P.T.B. have deposited a Bill with Parliament for the proposed construction of subways joined by escalators connecting the Metropolitan railway station with the north-



west corner of Church-street. Also a subway with escalators at the Central London railway station.

OLD JEWRY.—Offices.—And showrooms are to be erected on the site of No. 4 to the plans of Messrs. Ernest Bates and William G. Sinning, 27, Queen Victoria-street, E.C.4. The contractors are Messrs. H. J. Gower and Co., 5, Bow-lane, E.C.4.

PADDINGTON. — Extensions. — The G.W.R. have decided to carry out considerable extensions to the parcel depot at Bishops-road, W.2. Plans have been prepared by the company's architect, Mr. P. E. Culverhouse, F.R.I.B.A., Paddington Station, W.2.

PECKHAM HIGH-STREET.—Alterations. —And additions are to be made to branch premises for the Royal Arsenal Co-operative Society, Ltd., Powis-street, Woolwich, S.E. The society's building department will carry out the work to the plans of Mr. S. W. Ackroyd, F.R.I.B.A., Commonwealth-buildings, Albion-road, Woolwich, S.E.

POPLAR.—Alterations.—Mr. W. Stewart, 220, Whitechapel-road, E.1, is the architect for the alterations to the "Volunteer" public-house, Old Ford-road.

QUEEN ANNE-STREET, W.—Rebuilding. —Plans have been prepared by Messrs. Josephs, 2, Paul's Bakehouse-court, Godliman-street, E.C.4, for the rebuilding of No. 23. A block of offices will be erected.

RUISLIP.—Shops.—Mr. H. J. Palmer, of the Morris Estates, Ltd., 14, Regent-street, S.W.1, has prepared plans for 13 shops and flats in Victoria-road, Ruislip Manor. No contracts placed.

RUISLIP.—Shops.—The U.D.C. has passed plans for 18 shops and flats at Long-drive, South Ruislip, for A. J. Taylor; and six shops and three flats at the corner of Elm-avenue, Field End-road, for Nobel Estates.

RUSHEY GREEN. — Premises. — Messrs. Montague Burton Estates, Ltd., Hudson-road Mills, Leeds, have acquired a site for the erection of branch showrooms and offices. Plans have been prepared by the company's architect, Mr. Nathaniel Martin, L.R.I.B.A. No contracts placed.

ST. JOHN'S WOOD.—Flats.—The site at Nos. 58-62, Wellington-road, N.W., is to be utilised for a block of flats. The architect is Mr. John Batty, A.R.I.B.A., 142-143, Minories, E.C.3.

SEAMORE-PLACE.—Shops.—Messrs. Wills and Kaula, 22, Southampton-street, W.C.1, are the architects for shops and flats at No. 2. No contracts placed.

SOUTHGATE.—Premises.—Messrs. Montague Burton Estates, Ltd., Hudson-road, Mills, Leeds, are to build branch showrooms and offices at Green-lanes, N.14, to plans of their staff architect, Mr. Nathaniel Martin, L.R.I.B.A. No contracts let.

STOKE NEWINGTON. — Alterations. — And additions are to be carried out at 15, Newington Green, by Messrs. J. H. and W. Heal, 42, Park-street, N.W.1, at £1,207. Mr. Randolph P. Thomas, 16, Petherton-road, Highbury, N.5, is the surveyor.

STREATHAM.—Flats.—The site of No. 78, Park-road, S.W., has been sold for the erection of a block of flats. Preliminary negotiations are in the hands of Messrs. A. King and Co., Bruton-street, W.1.

TWICKENHAM. — Flats. — Plans have been prepared by Messrs. Couch and Coupland, Sheen-road, Richmond, for about 40 maisonettes in Craneford-way. The builder is Mr. H. C. Woodlands, Crane-court estate, Twickenham.

TWICKENHAM.—Houses.—The T.C. has now given consent to Messsrs. Bayes and Bishop, architects, 6. Pownall-gardens, Hounslow, for the proposed erection of 58 houses on a site between Whitton-road and Chertsey-road, and also to the erection of 96 flats and 14 garages at Runnymede-road.

TWICKENHAM.—Pavilion. — A sports pavilion is to be erected in Whitton Dene, to plans by Mr. G. L. Russell, 1, Broad-street-buildings, E.C.2.

WEST HAM. — Alterations. — And additions are to be made to the "Rathbone Arms" public-house, 27 and 29, Rathbone-street. Mr. S. A. S. Yeo, A.R.I.B.A., 56, Station-chambers, Turnville-street, E.C.1, is the architect. No contracts placed.

WEST HAM.—Alterations. — Mr. Wm. Stewart, F.R.I.B.A., 4, Aldgate High-street, E.C.3, is the architect for alterations to the "Earl of Essex," beer-house, 46, Greenwood-road, and the "British Flag," beer-house, 36, Alice-street, E. No contracts placed for either scheme.

WEST HAM.—Showroom.—Mr. G. Botwright, 208, High-street North, East Ham, E.6, for a motor showroom and garage, 24 lock-up garages, and petrol pumps, etc., at 211, Romford-road.

WEST HAM.—Reinstatement.—The Dulcia Mills, in Herbert-street, are being reinstated after fire from plans by Mr. R. C. Turner Gordon, L.R.I.B.A., 14, Sylvan-road, Wanstead, E.1. Messrs. Selwood and Son, 658, Barking-road, E., are the contractors.

WEST HAM. — Dwellings. — Messrs. A. and J. Soutar, 8, King William-street, W.C.2, are the architects for a three-story block of tenements and store building in Prince Regent-lane, between Shipman- and Berwick-roads. The contractors are Messrs. Wm. Walkerdine, Ltd., 115a, Walmer-road, North Kensington, W.10.

WOOD GREEN.—Schools.—The E.C. has instructed the Borough Surveyor to prepare detailed plans for the rebuilding of White Hart-lane school and alterations and additions at Bounds Green and Lordship-lane schools. The schemes are estimated to cost £42,500. Messrs. Young and Brown, 104, High Holborn, W.C.1, are to prepare the quantities.

WOOD GREEN.—School.—The E.C. has received notice of the provision by the Tottenham E.C. of a new school to accommodate about 560 children on a site adjoining Lordship-lane, Tottenham, N.17.

"THE BUILDER" DRAINAGE DIAGRAM

By HENRY GREENLY

The purpose of *The Builder* Drainage Diagram, published as a supplement with this issue, is to simplify the work of the architect and estate developer in the choice of storm water sewers under the latest Ministry of Health formulæ. The average practitioner is not called upon to solve such problems every day. There may be an interval of years between one estate development job and another, and getting back to first principles takes time.

The exact purpose of *The Builder* Chart —designed by my son, Mr. Raymond H. Greenly, B.Sc. (Hons., London)—is to enable the diameter of the sewers draining any particular area to be found in a manner which will satisfy the Ministry of Health formula for storm water as applied to the district involved. It is necessary, of course, to determine the impervious area for the estate under consideration by means of the various methods in common use. The road plans should be available and the levels known, as also the location of the sewers to be laid and grades.

The diagram can then be used, and will give the required sewer sizes without any arithmetical calculations whatever. The amalgamation diagram included on the chart will take care of junctions of sewers.

It is claimed that the diagram is not only comprehensive but quick and easy to use, and gives all data without necessity of calculation. In addition, it provides a first approximation. This is very necessary in the case of those who by constant practice can more or less decide the size of the sewer before proceeding to more exact calculations. It will be noticed on the main diagram there is a "bull's-eye" point on the "q" scale. and by drawing a line from this to the impervious acreage scale A, the line will pass through the diameter of pipe scale D. The nearest diameter is the one that is likely to be correct size, when the known and unknown figures are arrived at in the order given in the instructions for use.

There are several methods of using the straight-edge. To save damage to the diagram itself, if an ordinary short-edge is employed the diagram can have a piece of tracing paper stretched over it. Another method is to use a 15-in. long by 3-in. wide strip of celluloid with a black line engraved down its centre. This is better than the opaque wooden straight-edge, as reading-off is facilitated. The long line could be inscribed on a large celluloid set-square, to effect the same result.

A diagram of the proposed sewer as shown in Fig. 2 should be prepared with the following data marked against each sewer, viz., length, proposed grade, and the predetermined impervious area. In a case in point, the writer was able, after ascertaining the requirements of the local authority, to use a factor per 100 ft. of road. I could say that for this given length the impervious area would be ⅛ (·125) acre for a 40-ft. road and ·14 acre for another width of road. This question of impervious acreage proportion must be settled in consultation with the engineer or surveyor in charge of the district.

The records should be made in a permanent form on paper ruled out in the form exemplified by Fig. 3, and on this tabulated statement the known figures on the diagrams should be written down. It is wise to deal with all simple sewers on one table, proceeding in the order instructed to ascertain and record the unknown figures for future reference. The sewers affected by junctions of area can then be dealt with. It must be noted that the discharge must be equal or less than the capacity of any sewer, and that small differences can often be overcome by slight alterations in gradient. The values of one size of pipe can be checked against another in a moment by the use of a straight-edge. The local authority should always be consulted as to minimum and maximum velocity of flow they will allow.

The diagram may be used for sewers on the combined system with every confidence, since the dry-weather flow is so small compared with the maximum discharge of rainwater.

Amalgamation of Areas.

When sewers draining a number of areas are combined, the particular sewer carrying the discharge from the junction need not be a capacity equal to the sum of the capacity of the tributary drains. The reason for this lies in the fact that the discharge from a sewer of a short time of concentration will have flowed away before the whole of the water from a larger sewer reaches the junction.

The At value in the diagram represents the area modified by the time of concentration. This value has the property of being able to be added together, whereas if the areas themselves are added together the resulting sewer will be unnecessarily large. This added At value can be converted to "effective area" by the diagram, using the value and the least time of concentration as a means of finding by a straight line the effective area on the A scale.

Generally, the Ministry's formula has the effect of increasing the sizes of the heads of the sewers to prevent flooding, without involving the size (and cost) of the sewers lower down in the system.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st JANUARY, 1936.

'Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Crafts-men.	Lab-ourers.
Aberdare	1/6	1/1½
Abergavenny	1/6	1/1½
Abingdon	1/5	1/0¾
Accrington	1/6½	1/2
Aldeburgh	1/2½	11
Aldershot	1/3½	11¾
Alfreton	1/6½	1/2
Alnwick	1/6	1/1½
Altrincham	1/6½	1/2
Amble	1/6	1/1½
Amersham	1/4½	1/0¾
Ammanford	1/6½	1/2
Andover	1/3½	11¾
Ardingley	1/4½	1/0¾
Arundel	1/4	1/0
Ascot	1/4½	1/0½
Ashby-de-la-Zouch	1/5	1/0¾
Ashford (Kent)	1/3½	11¾
Ashford (Middlesex)	1/5½	1/1¼
Ashington	1/6	1/1½
Ashstead	1/5	1/0¾
Ashton-under-Lyme	1/6½	1/2
Aylesbury	1/4	1/0
Aylsham	1/3½	11¾
Bagshot	1/3½	11¾
Banbury	1/4	1/0
Barnsley	1/6½	1/2
Barnstaple	1/4½	1/0½
Barrow-in-Furness	1/6½	1/2
Barry	1/6½	1/2
Basingstoke	1/4	1/0
Bath	1/5½	1/1¼
Batley	1/6½	1/2
Beaconsfield	1/4½	1/0½
Beccles	1/3	11¼
Bedford	1/5½	1/1¼
Berkhamsted	1/4	1/-
Berwick	1/5½	1/1¼
Beverley	1/6½	1/2
Bexhill-on-Sea	1/4½	1/0½
Bideford	1/4½	1/0½
Biggleswade	1/4	1/-
Billericay	1/4	1/-
Birchington	1/4	1/-
Birkenhead	‡§1/8½	¶
Birmingham	1/6½†	1/2
Bishop Auckland	1/6	1/1½
Bishops Stortford	1/5	1/0¾
Blackburn	1/6½	1/2
Blackpool	1/6½	1/2
Blyth	1/6½	1/2
Bognor Regis	1/4	1/-
Bolton	1/6½	1/2
Bournemouth	1/5½	1/1¼
Bracknell	1/4	1/-
Bradford	1/6½	1/2
Bradford-on-Avon	1/3½*	11¾
Braintree	1/4½	1/0½
Brentwood	1/6	1/1½
Bridgwater	1/4½	1/0½
Bridlington	1/6	1/1½
Brighouse	1/6½	1/2
Brighton	1/5½	1/1¼
Bristol	1/6½	1/2
Broadstairs	1/4	1/-
Bromsgrove	1/5½	1/1¼
Buckley	1/6½	1/2
Bungay	1/2½	11
Burnham-on-Crouch	1/3	11¼
Burnley	1/6½	1/2
Bursiem	1/6½	1/2
Burton-on-Trent	1/6½	1/2
Bury	1/6½	1/2
Bury St. Edmunds	1/4	1/-
Buxton	1/6	1/1½
Byfleet	1/4½	1/0½
Cambridge	1/6	1/1½
Canterbury	1/4	1/-
Cardiff	1/6½	1/2
Carlisle	1/6½	1/2
Carnforth	1/6½	1/2
Castleford	1/6½	1/2
Caterham	1/5	1/0¾
Chard	1/3½*	11¾
Chatham	1/5	1/0¾
Chelmsford	1/5	1/0¾
Cheltenham	1/5	1/0¾
Chepstow	1/5½	1/1¼
Chertsey	1/5	1/0¾
Chester	1/6½	1/2
Chesterfield	1/6½	1/2
Chichester	1/4	1/-
Chorley	1/6½	1/2
Cirencester	1/4*	1/-
Clacton	1/4½	1/0½
Cleveleys	1/6½	1/2
Clitheroe	1/6½	1/2
Cobham	1/5	1/0¾
Colchester	1/5½	1/1¼
Colwyn Bay	1/5½	1/1¼
Congleton	1/6	1/1¼
Coventry	1/6½	1/2
Cranbrook	1/3	11¼
Cranleigh	1/3½	11¾
Crawley	1/4½	1/0½
Crewe	1/5½	1/1¼
Cromer	1/3½	11¾
Crowborough	1/4½	1/0½
Cuckfield	1/4½	1/0½
Darlington	1/6½	1/2
Darwen	1/6½	1/2
Daventry	1/5	1/0½
Deal	1/4	1/-
Denbigh	1/5	1/0¾
Derby	1/6½	1/2
Devizes	1/3*	11¼
Dewsbury	1/6½	1/2
Didcot	1/4½	1/0½
Diss	1/3	11¼
Doncaster	1/6½	1/2
Dorchester	1/4*	1/-
Dorking	1/4½	1/0½
Dover	1/4	1/-
Dovercourt	1/4½	1/0½
Driffield	1/5	1/0¾
Droitwich	1/5½	1/1¼
Dudley	1/6½	1/2
Dunstable	1/4½	1/0½
Durham City	1/6½	1/2
Eastbourne	1/5½	1/1½
E.Glam.(Mon.Val.)	1/6	1/1½
East Grinstead	1/4½	1/0½
Edenbridge	1/4½	1/0½
Ely	1/3	11¼
Epping	1/6½	1/2
Exeter	1/5½†	1/1¼
Exmouth	1/4½	1/0½
Fakenham	1/3	11¼
Falmouth	1/5	1/0¾
Fareham	1/4	1/-
Faversham	1/3½	11¾
Felixstowe	1/5	1/0¾
Filey	1/5	1/0¾
Fleetwood	1/6½	1/2
Flint	1/6	1/1½
Folkestone	1/4	1/-
Frinton-on-Sea	1/4½	1/0½
Frome	1/3½*	11¾
Gainsborough	1/5½	1/1¼
Gateshead	1/6½	1/2
Gillingham	1/5	1/0¾
Glossop	1/6½	1/2
Gloucester	1/5½†	1/1¼
Godalming	1/4½	1/0½
Goole	1/6½	1/2
Gosport	1/5½	1/1¼
Grantham	1/5	1/0¾
Gravesend	1/6	1/1½
Gt. Yarmouth	1/4½	1/0½
Grimsby	1/6½	1/2
Guildford	1/4½	1/0½
Guilsborough	1/5	1/0¾
Halifax	1/6½	1/2
Hanley	1/6½	1/2
Harpenden	1/5	1/0¾
Harrogate	1/6½	1/2
Hartlepools	1/6½	1/2
Harwich	1/4½	1/0½
Haslemere	1/3½	11¾
Hastings	1/4	1/0
Hatfield	1/5½	1/1½
Haywards Heath	1/4½	1/0½
Hednesford	1/6	1/1½
Hemel Hempstead	1/5½	1/1¼
Henley	1/4½	1/0½
Hereford	1/4½*	1/0½
Herne Bay	1/4	1/0
Hertford	1/5½	1/1¼
Heysham	1/6½	1/2
Hitchin	1/5	1/0¾
Hoddesdon	1/5½	1/1¼
Holt	1/2½	11
Horley	1/4	1/-
Horsham	1/4	1/-
Horwich	1/6½	1/2
Huddersfield	1/6½	1/2
Hull	1/6½	1/2
Hunstanton	1/3	11¼
Huntingdon	1/3½	11¾
Ilfracombe	1/4½	1/0½
Ingatestone	1/4½	1/0½
Ipswich	1/5½	1/1¼
Isle of Thanet	1/4	1/-
Isle of Wight	1/3½	11¾
Keighley	1/6½	1/2
Kenilworth	1/6½	1/2
Kettering	1/6	1/1½
Kidderminster	1/5½	1/1¼
King's Lynn	1/4	1/-
Kirkham	1/6½	1/2
Knowle	1/6	1/1½
Lancaster	1/6½	1/2
Leamington	1/6	1/1½
Leatherhead	1/5½	1/1¼
Leeds	1/6½	1/2
Leicester	1/6½	1/2
Leighton Buzzard	1/3½	11¾
Letchworth	1/5	1/0¾
Lewes	1/3	11¼
Lichfield	1/5½	1/1¼
Lincoln	1/6½	1/2
Littlehampton	1/4	1/-
Liverpool	‡§1/8½	¶
Llandudno	1/5½	1/1¼
Llanelly	1/6½	1/2
London:		
12 m. radius	1/8*	1/3
12-15 m. radius	1/7½*	1/2¾
Long Eaton	1/6½	1/2
Longton	1/6½	1/2
Loughborough	1/6½	1/2
Louth	1/5	1/0¾
Lowestoft	1/4½	1/0½
Luton	1/6	1/1½
Macclesfield	1/6	1/1½
Maidenhead	1/5	1/0¾
Maidstone	1/5	1/0¾
Malvern	1/5	1/0¾
Manchester	1/6½	1/2
Manningtree	1/3	11¼
Mansfield	1/6½	1/2
March	1/3½	11¾
Margate	1/4	1/-
Market Harborough	1/5½	1/1¼
Matlock	1/5	1/0¾
Melton-Constable	1/2½	11
Melton Mowbray	1/5½	1/1¼
Merthyr Tydfil	1/6	1/1½
Middlesbrough	1/6½	1/2
Middleton	1/6½	1/2
Middlewich	1/5½	1/1¼
Milford Haven	1/4½	1/0½
Morecambe	1/6½	1/2
Morley	1/6½	1/2
Mundesley	1/3½	11¾
Nantwich	1/5½	1/1¼
Newark-on-Trent	1/5½	1/1¼
Newbury	1/4	1/-
Newcastle-on-Tyne	1/6½	1/2
Newcastle-u-Lyme	1/6½	1/2
New Forest	1/3½	11¾
Newmarket	1/4½	1/0½
Newport, Mon.	1/6½	1/2
Newport Pagnell	1/3½	11¾
Northampton	1/6½	1/2
Norwich	1/6	1/1½
Nottingham	1/6½	1/2
Nuneaton	1/6½	1/2
Oakham	1/5	1/0¾
Oldham	1/6½	1/2
Ormskirk	1/6½	1/2
Oxford	1/6	1/1½
Oxted	1/3½	11¾
Paignton	1/6	1/1½
Peterborough	1/6	1/1½
Plymouth	1/6½†	1/2
Pontypridd	1/6	1/1½
Portsmouth	1/5½	1/1¼
Port Talbot	1/6½	1/2
Preston	1/6½	1/2
Pulborough	1/3	11¼
Ramsgate	1/4	1/-
Reading	1/5½	1/1¼
Redditch	1/5½	1/1¼
Redhill	1/4½	1/0½
Reigate	1/4½	1/0½
Retford	1/5	1/0¾
Rickmansworth	1/6	1/1½
Ripon	1/5	1/0¾
Rochdale	1/6½	1/2
Rochester	1/5	1/0¾
Rugby	1/6½	1/2
Saffron Walden	1/3	11¼
St. Albans	1/6	1/1½
St. Helens	1/6½	1/2
St. Neots	1/3½	11¾
Salisbury City	1/3½*	11¼
Salisbury Plain	1/3½*	11¾
Sawbridgeworth	1/4½	1/0½
Saxmundham	1/2½	11
Scarborough	1/6	1/1½
Selby	1/6½	1/2
Sevenoaks	1/5	1/0¾
Sheerness	1/4	1/-
Sheffield	1/6½	1/2
Shipley	1/6½	1/2
Shoeburyness	1/6	1/1½
Shoreham	1/5	1/0¾
Shrewsbury	1/5½	1/1¼
Sittingbourne	1/3½	11¾
Skegness	1/5½	1/1¼
Sleaford	1/5	1/0¾
Slough	1/5½	1/1¼
Southampton	1/5½	1/1¼
Southend-on-Sea	1/6	1/1½
Southport	1/6½	1/2
South Shields	1/6½	1/2
Spalding	1/4	1/-
Stafford	1/6	1/1½
Staines	1/5½	1/1¼
Stamford	1/5	1/0¾
Stevenage	1/5	1/0¾
Stockport	1/6½	1/2
Stockton-on-Tees	1/6½	1/2
Stoke-on-Trent	1/6½	1/2
Stourbridge	1/6	1/1½
Stourport	1/5½	1/1¼
Stowmarket	1/3	11¼
Stratford-on-Avon	1/5	1/0¾
Stroud	1/5†	1/0¾
Sunderland	1/6½	1/2
Sutton Coldfield	1/6½	1/2
Swaffham	1/2½	11
Swanage	1/4½*	1/0½
Swansea	1/6½	1/2
Swindon	1/5*	1/0¾
Tamworth	1/6	1/1½
Taunton	1/4½	1/0½
Tenterden	1/3½	11¼
Tewkesbury	1/5*	1/0¾
Thetford	1/3	11¼
Thorpe Bay	1/6	1/1½
Todmorden	1/6½	1/2
Tonbridge	1/5	1/0¾
Torquay	1/6	1/1½
Totnes	1/4½†	1/0½
Trowbridge	1/3½*	11¼
Truro	1/3½	11¼
Tunbridge Wells	1/5	1/0¾
Uppingham	1/5	1/0¾
Uttoxeter	1/5	1/0¾
Wakefield	1/6½	1/2
Walsall	1/6½	1/2
Walsden	1/6½	1/2
Walton-on-Naze	1/4½	1/0½
Ware	1/5½	1/1¼
Warminster	1/3½*	11¼
Warrington	1/6½	1/2
Warwick	1/6	1/1½
Wellingborough	1/6	1/1½
Wells (Norfolk)	1/2½	11
Welwyn	1/5½	1/1¼
Welwyn Gar. City	1/6½	1/2
West Bromwich	1/6½	1/2
Westcliff-on-Sea	1/6	1/1½
Weston-super-Mare	1/5½	1/1¼
Weybridge	1/5	1/0¾
Weymouth	1/4*	1/-
Whitby	1/5½	1/1½
Whitstable	1/4	1/-
Widnes	1/6½	1/2
Wigan	1/6½	1/2
Wigton	1/5	1/0¾
Willington	1/6	1/1½
Wilmslow	1/6½	1/2
Winchester	1/4½	1/0½
Windermere	1/5	1/0¾
Windsor	1/5½	1/1¼
Wisbech	1/3½	11¼
Witham	1/4½	1/0½
Woking	1/4½	1/0½
Wokingham	1/4½	1/0½
Wolverhampton	1/6½	1/2
Woodbridge	1/3½	11¼
Worcester	1/5½	1/1¼
Workington	1/5	1/0¾
Worksop	1/5½	1/1¼
Worthing	1/4	1/-
Wrexham	1/6	1/1½
Wroxham	1/4	1/-
Wycombe	1/5	1/0¾
Wymondham	1/3	11¼
Yeovil	1/4½*	1/0½
York	1/8½	1/3

‡ Plasterers 1/9.

* Painters 1d. less than other Craftsmen. † Painters ½d. less than other Craftsmen.

¶ Tradesmen's Labourers 1/3½. Navvies and General Labourers 1/3.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

For Building Trade Wages in Scotland see page 145.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

JANUARY 11.

Aberdeen.—Houses.—2 blocks, at Newburgh, for C.C. Edwin L. Williamson, architect, 154, Union-st., Aberdeen.

Ashbourne.—Painting.—Of Poor Law Institution, for Derbyshire C.C. County Architect, County Offices, Derby. Dep. £2 2s.

Batley.—Extension.—To Central Bakery, Green-st., for Batley Co-operative Society, Ltd. H. Brearley, Architect and S., Westfield, Syke-la., Earlsheaton, Dewsbury.

Belfast.—Alterations.—And improvements to premises, Victoria-st., for Amalgamated Transport and General Workers' Union. Hugh Lamont, architect, 83, Royal-ave.

Birmingham.—Reconstructed Stone.—And granolithic paving works in connection with building of maternity block at Dudley-rd. Hospital, for T.C. F. H. C. Wiltshire, T.C. Dep. £2 2s.

Bromley.—Transformer Sub-station.—At Prospect-pl., Mason's Hill, for T.C. W. G. Trend, Electrical E., 1, West-st. Dep. £1.

Chatham.—Houses.—16 at The Lines, 10 at Ordnance-st., 10 at Perry-st., and 4 flats at Perry-st., for T.C. R. L. Honey, B.E. and S. Dep. £2 2s.

Chester.—Alterations.—And additions to Transport Depot, Car-st., for T.C. C.E. and S. Dep. £1 1s.

Chesterfield.—Painting.—At Poor Law Institution, for Derbyshire C.C County Architect, County Offices, Derby. Dep. £2 2s.

Doncaster.—Sub-station.—On Rookery site, St. Sepulchre-gate, for T.C. B.E., 2, Priory-pl.

Dunfermline.—Houses.—10, at Dundas-st., for T.C. D. H. Shaw, B.E. Dep. £1.

Edinburgh.—Demolition.—Of buildings at 74-92, Potterrow, for T.C. D. Robertson, T.C.

Leeds.—Erection.—Of 8 houses and shops and 4 garages, on Sandford House estate, for T.C. T.C., Room 57, Civil Hall. Dep. £2.

Leicester.—Extension.—To Imperial-av. Infants' school, for T.C. Director of Education.

Longlevens.—School.—For Gloucestershire C.C. R. S. Phillips, F.R.I.B.A., County Architect, Shire Hall, Gloucester. Dep. £2 2s.

Northampton.—Erection.—Of open-air school, Trinity-av., for C.B. Keightley Cobb, L.R.I.B.A., 46, Hazelwood-rd. Dep. £5 5s.

Pewsey.—Houses.—26, at seven sites, for R.D.C. J. Black, S., Council Offices. Dep. £2 2s.

***Plymouth.**—Alterations.—To Stonehouse Town Hall, 39 flats at High-st. and Palace-st., 12 flats at Sithney-st., St. Budeaux, 32 dwellings and 12 flats at Waterloo-yd., Stonehouse, 40 flats at North-st. and Moon-st., alterations to laundry at Mental Hospital, Blackadon, for T.C. City Architect. Dep. £2 2s.

Thorpe St. Peter.—House.—For Lindsey C.C. B. H. Moore, County Land Agent. Dep. £1.

Usk.—Glass Houses.—At Monmouthshire Institute of Agriculture, for Monmouthshire C.C. Colin L. Jones, L.R.I.B.A., County Hall, Newport. Dep. £1 1s.

Walsall.—Houses.—28, off Bentley-dr.; 10 one-bedroom type in Littleton-st. West, and 10 economic-rent type in Bentley-dr., for T.C. J. Taylor, B.E. and S. Dep. £3 3s.

Wednesbury.—Houses.—275, on Crankhall-ln. (East) site, for T.C. Arthur Booth, L.R.I.B.A., B.E. and S. Dep. £5 5s.

Weymouth and Melcombe Regis.—Painting.—Of golf club pavilion and various properties, for T.C. B.S., 6, Pulteney-bldgs., Weymouth.

Winsford.—Houses.—18 parlour type and 24 non-parlour type in vicinity of Hill-st., for U.D.C. Peter Heaton, E. and S. Dep. £3 3s.

Worthing.—Erection.—Of five blocks of cottages and two blocks of cottages, type C., at Angmering, near Littlehampton, for R.D.C. S. Dep. £2 2s.

JANUARY 12.

Addlestone.—Extensions.—To small animal house at M/Agriculture and Fisheries, Veterinary Laboratory, for H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Braintree.—Enlargement.—Of Chapel Hill Council school, for Essex C.C. J. Stuart, F.R.I.B.A., Chelmsford. Dep. £2 2s.

Coseley.—Greenhouse.—On Silver Jubilee Park, for U.D.C. G. Edwin Mitchell, S.

Coseley.—Houses.—196, including drainage, fencing, etc., at Woodcross estate, for U.D.C. J. Percy Clark, F.R.I.B.A., A.R.C.A., Scott and Clark, architects, Regent's-chmbrs., Wednesbury. Dep. £2 2s.

Honiton.—Houses.—12, for U.D.C. B. R. Dunning, clerk.

King's Lynn.—Houses.—12, for T.C. J. C. Matthew, B.E. Dep. £1 1s.

Lampeter.—Renovations.—And improvements to Institution, for Cardiganshire P.A.C. R. Jones, County Architect, County Offices, Llandyssul. Dep. £3.

***Lancashire.**—Asphalting.—To flats, floors and walls at Morecambe new grammar school, for C.C. County Architect, Preston. Dep. £2.

***Lancashire.**—Suspended fireproof floors, roof flats, lintols and staircases at Morecambe new grammar school, for C.C. County Architect, Preston Dep. £2

Leeds.—Extension.—To transport depot at Headingley, for T.C. W. Vane Morland, General Manager and Chief E., 1, Swinegate.

Leicester.—Extensions.—At Isolation Hospital and Sanatorium, Gilroes, Groby-rd., for T.C. Secretary, Health Department, Grey Friars. Dep. £3 3s.

Middleton.—Houses.—16, and incidental work in connection therewith, for U.D.C. Jerome J. Ronayne, T.C.

Newport.—Construction.—Of forecourt walls, retaining walls and temporary footpath in Cardiff-rd., for T.C. B.E. Dep. £10.

Prescot.—Houses.—188, nr. Shaw-ln., for U.D.C. F. A. Gregson, S., 2, West-st., Prescot.

Rayleigh, Essex.—Employment Exchange.—For H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Stockport.—Houses.—64, on Huntsman's Brow site, for T.C. W. F. Gardner, B.S. Dep. £2 2s.

Swinton.—Houses.—302, and 34 bungalows on five sites, for U.D.C. H. Goodwin, E. and S. Dep. £2.

Walsall.—Erection.—Of two wings to Nurses' Home at Manor Hospital, for T.C. B.S. Dep. £3 3s.

Warrington.—Shelter.—And conveniences at Kingsway South, for T.C. J. Y. Hughes, B.S. Dep. £2 2s.

JANUARY 13.

Aberdeen.—Houses.—4 at Gartly Station, for C.C. W. L. Duncan, architect, Turriff.

Ashton-under-Lyne.—Flats.—32, in Rowley-st., Stanhope-st. and Russell-st., for T.C. W. Wilson, B.S. Dep. £2 2s.

Barking.—Houses.—8, and 8 flats, in Abbey-rd., for B.C. B.E. and S.

Birkenhead.—Cleaning Down.—And painting of gas department showroom in Argyle-st. and Oliver-st., for T.C. Gas E., Gas Offices, Hind-st

Brighton.—Removal.—Of fencing at Preston Park-av., for T.C. B.E. and S. Dep. £2 2s.

Burnley.—Houses.—62, at Plane Tree estate, for T.C. John L. Beckett, B.E. and S.

Denton.—External Painting.—Of 204 houses on various housing estates, for U.D.C. J. B. Cooke, S., Town Hall. Dep. £2 2s.

Erith.—Sports Pavilion.—And public conveniences at West Heath Recreation Ground, for U.D.C. E. and S. Dep. £1 1s.

Ipswich.—Houses.—256, on Priory Heath housing estate, for C.B. T.C. Dep. £2 2s.

Knottingley.—Houses.—140, at England-la., for U.D.C. G. J. Laverick, S., Town Hall. Dep. £2 2s.

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Leyburn (Yorks).—Houses.—2, at West Witton, and 2, at Bellerby, for R.D.C. Sanitary Inspector Dep. £1 1s.

Manchester.—Erection.—Of Moston Fields Municipal School, Moston, for E.C. S. Dep. £2 2s.

Mansfield.—Erection.—Of male advanced block and alterations and additions, at Ransom Sanatorium, for Nottinghamshire C.C. County Architect, Shire Hall, Nottingham. Dep. £1 1s.

Rowley Regis.—Disinfector Station.—At Waterfall-ln. depot, Old Hill, for T.C. L. J. Taylor, B.S., Haden Hill Park Offices, Old Hill. Dep. £1 1s.

Rowley Regis.—Construction.—Of brick and concrete retaining wall, in City-rd., Tividale, for T.C. L. J. Taylor, B.S., Haden Hill Park Offices, Old Hill. Dep. £1 1s.

Warminster.—Post Office Garage.—For H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Wembley.—Installation.—Of hot-water circulating systems in 359 occupied houses, on Wembley and Kingsbury estates, for U.D.C. Treasurer, 117a, High-rd. Dep. £1 1s.

Wembley.—Fixing.—547 lavatory basins in occupied houses, on Wembley and Kingsbury estates, Treasurer, 117a, High-rd. Dep. £1 1s.

Whittlesey.—Houses.—12, in Blackbush, 20, in Eastrea-rd., and 20, in Eastrea-rd., for U.D.C. S. Dep. £2 2s.

JANUARY 14.

Cardiff.—Alterations.—And additions, to Docks Branch Library, for T.C. City E.

Caernarvon.—Alteration.—And improvement to abattoir, for T.C. Borough Treasurer, 26, High st. Dep. £2 2s.

Durham.—Erection.—Of timber-framed sectional office hut behind 43, Old Elvet, for C.C. William J. Merrett, C.E., S. and Architect, 20, Old Elvet.

Eastbourne.—Building.—Of certain walls, etc., around transformers at electricity generating station, Churchdale-rd., for T.C. B. Electrical E., Electric House, Grove-rd.

Glasgow.—Alterations.—And additions, North Woodside baths, for T.C. Office of Public Works (Room 81). Dep. £2 2s.

Gosport.—Demolition.—And reconstruction of Anp's Hill Railway Arch, for T.C. B.E. Dep. £5.

Luton.—Construction.—Of half-hanger, together with attendant workshops, office, etc., for T.C. J. W. Tomlinson, B.E. and S. Dep. £2 2s.

South Yardley.—Construction.—Of single-story administration block and superstructure of power-house at Cole Hall-la., for Birmingham Tame and Rea District Drainage Board. H. C. Whitehead, E., Rookery Park, Kingsbury-rd., Erdington.

Southport.—Ornamental Wrought-iron Railings.—For T.C. B.E.

Southport.—Flower Show Offices.—In Victoria Park, for T.C. B.E. Dep. £1 1s.

Totnes.—School.—For Devon C.C. H. V. de Courcy Hague, F.R.I.B.A., County Architect, 97, Heavitree-rd., Exeter. Dep. £2 2s.

Warrington.—Erection.—Of temporary hospital building at County Mental Hospital, Winwick. Clerk. Dep. £2 2s.

Yeovil.—Houses.—12, at Stoke-under-Ham, for R.D.C. Petter, Warren & Roydon Cooper, F./A.R.I.B.A., Old Sarum, Yeovil.

JANUARY 15.

***Bristol.**—Construction.—Of 14 above-ground substations, for T.C. Chief E. Dep. £2 2s.

Cookstown.—Erection.—Of 6 classrooms, etc., at public elementary school, for E.C. A. M. Brennen, Burn-rd. Dep. £3 3s.

Kirkcaldy.—Houses.—234, for T.C. Deas & Bertram, architects, Central-chambs.

Towcester.—Houses.—22, of various types, in three parishes, for R.D.C. H. J. Ingman, Milton-chmbrs., Derngate, Northampton.

JANUARY 16.

Bromsgrove.—Hospital Block.—Nurses' home, and other works, in connection with extension of Hill Top Isolation Hospital, for Bromsgrove, Droitwich and Redditch Hospital Committee. Frank Holyoake, clerk. Dep. £1 1s.

Conway.—Cleaning.—Scraping and painting of Suspension Bridge, for Bridge Commissioners. E. O. Foulkes, Bridge E. Dep. £1 1s.

Conway.—Concreting.—Of four bridge anchorages, for Bridge Commissioners. E. O. Foulkes, Bridge E., Municipal-bldgs., Conway. Dep. £1 1s.

***Easthampstead.**—Dwellings.—40 or 12, in Chavey Down-rd., Winkfield, for R.D.C. Fredk. G. Sainsbury, L.R.I.B.A., 154, Friar-st., Reading. Dep. £1 1s.

Hayes and Harlington.—Galvanised Chain Link Fencing.—And gates at Botwell Recreation Ground, Hayes, for U.D.C. F. J. N. Polkinhorne, E. and S., Town Hall, Hayes.

Huddersfield.—Supply.—And installation of heating and ventilating equipment for new public library in Ramsden-st., for C.B. Library Architect, 26, Ramsden-st. Dep. £2 2s.

Ireland.—Houses.—And outoffices, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Ledbury.—Houses.—12 at four sites in Much Marcle and Rushall, for R.D.C. C. E. G. Smith, architect, Shell House, Ledbury. Dep. £2 2s.

Lostwithiel.—Dwellings.—14, at Bodmin Hill, for T.C. B.S. Dep. £2 2s.

Macclesfield.—Working-class dwellings.—On London-rd. housing estate, for T.C. Edward Hamson, architect. Dep. £2.

Maidstone.—Erection.—Of Plaine-av. school, for T.C. B.S. Dep. £2 2s.

Marple.—Erection.—Of 24 bungalows and 40 dwelling-houses on Peace Farm housing estate, for U.D.C. T. Cooper, E. and S., Council Offices, Marple, near Stockport. Dep. £2 2s.

Rochester.—Extension.—Of Gordon-rd. school, Senior Girls' Dept., for T.C. Secretary.

Sutton and Cheam.—Conveniences.—At Cemetery, Sutton Common-rd., Sutton, for T.C. N. H. Michell, B.E. and S., Municipal Offices, High-st., Sutton.

Wadsley, near Sheffield.—Erection.—Of two shelters in airing courts at Admission Hospital, West Riding Mental Hospital, for West Riding C.C. W. E. H. Burton, architect and E., West Riding Mental Hospital, Wakefield.

Yorkshire.—Rebuilding.—Of extensive river retaining wall on Skipton and Otley County-rd., at Cocking End, Addingham, and construction and making-up of Grosvenor-gdns. Huby, for West Riding C.C. West Riding Surveyor, County Hall, Wakefield. Dep. £1.

JANUARY 17.

Newbiggin-by-the-Sea.—Installation.—Of electric lighting for 106 houses at Woodhorn Demesne, for U.D.C. James Kallofer, S.

JANUARY 18.

Alfreton.—Demolition.—And removal, 1 and 2, Cemetery-rd., and adjoining outbuildings, for U.D.C. H. R. Cleaver, clerk, Council Offices, Cornhill House.

Beckenham. — Alterations. — And additions to public baths, for T.C. B.E. Dep. £2.

Birkenhead.—Painting.—Of portion of sessions courthouse, for T.C. E. W. Tame, T.C.

Blackpool. — Shelter. — And convenience, junction of St. Annes-rd. and Highfield-rd., for C.B. B.S. Dep. £1.

Dublin.—Erection.—Of two blocks of flat dwellings and estate office at Thorncastle-st., two blocks of flat dwellings and estate office at Henrietta-st., also 154 houses at Harold's Cross housing area, for T.C. City Treasurer, Exchange Buildings, Lord Edward-st. Dep. £5 5s. each scheme.

Dumfries.—Re-slating Work.—Of 4 blocks of houses at Brodie-av., Troqueer, for T.C. B.S.

Dumfries.—External Painter Work.—Of 84 houses at Milldamhead, for T.C. B.S.

Ealing. — Alterations. — And additions to Central School, Cranmer-av., for B.C. B.E. Dep. £1 1s.

Gillingham.—Houses.—40, at Forge-la. housing scheme, for T.C. John L. Redfern, F.R.I.B.A., B.E. and S. Dep. £2 2s.

***Leicester.**—Provision.—And fixing of metal windows and lantern lights at Newarke Secondary School for Girls, for T.C. Director of Education. Dep. £1 1s.

***Leicester.**—Hot-water Heating.—And domestic hot-water supply at Newarke Secondary School for Girls, for T.C. Director of Education. Dep. £1 1s.

Liskeard.—Erection.—Of block of three shops with flats over at Bay Tree-hill, for D. Venning & Son, Ltd. H. R. Venning, L.R.I.B.A., Midland Bank-chambs.

Litherland (Liverpool).—Houses.—124, on site between Sefton-rd. and Moss-ln., for U.D.C. C. Dep. £2 2s.

Liverpool.—Alterations.—And additions at Roscoe School, Ballantyne-rd., West Derby, for T.C. Land Steward and S. Dep. £2 2s.

***London.**—Alterations.—To 97/99, Clerkenwell-rd., to form branch post office for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, S.W.1. Dep. £1.

Morpeth.—Erection.—Of 22 small type houses on housing site, Pegswood, and 8 on Widdrington Station site; 22 A.3 type houses on Pegswood site; provision and laying of water mains with necessary valves, etc.; also making-up of roads and footpaths and provision and laying of sewers, for R.D.C. T. T. Watson, 7a, Bridge-st.

Newmarket.—Houses.—32, and 8 bungalows, in various parishes, for R.D.C. S. Dep. £1 1s.

Panteg, Ystalyfera.—School.—For Glamorgan C.C. D. J. Parry, Glamorgan County Hall, Cardiff.

Rickmansworth.—Convenience.—For U.D.C. S. Dep. £1 1s.

St. Austell.—Houses.—16, and construction of roads and sewers, at Tywardreath, for U.D.C. E. D. Groves, E. and S. Dep. £2 2s.

***Salford.**—Alterations.—And additions to District Post Office, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Sheffield.—Booster Station.—At Bow Bridge, Rotherham, for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £2.

Southend-on-Sea.—Construction.—Of public convenience, junction of Rayleigh-rd. and Bellhouse-la., for C.B. B.E. and S. Dep. £2.

Sowerby.—Store House.—At gasworks, for U.D.C. J. Eastwood, S., Council Offices, Sowerby Bridge

Swadlincote.—Manager's House.—And/or office, mess-room, etc., at sewage disposal works, Council Farm, Stanton, for U.D.C. Geo. A. Taylor, E. and S. Dep. £2 2s.

West Hartlepool.—Erection.—Of conveniences, reinforced concrete shelters, clock tower and wing walls, at Seaton Carew, for T.C. B.E. Dep. £5.

Wirksworth.—Painting.—And decorating of certain rooms and offices at Town Hall, for U.D.C. Charles Frobisher, E. and S.

JANUARY 19.

Bolsover.—Erection.—At Moor-la. estate, Bolsover, 25 houses and 12 bungalows; Church-la. estate, Stanfree, 12 houses and 12 bungalows; also construction of roads and footpaths, for U.D.C. S. Hoten, S Dep. £2 2s.

Brighton.—Houses.—54, and 28 flats, on East Moulsecoomb estate, for C.B. B.E. and S. Dep. £2 2s.

Devizes.—Fencing.—In connection with Wick-rd. widening, for T.C. A. W. Jakeway, B.S.

Leicester.—Houses.—274, at Braunstone, for T.C Chairman of Housing Committee, 18, Highcross-st. Dep. £1 1s.

Liverpool.—Internal Painting.—Of offices and corridors at several baths and washhouses, for T.C. Baths Manager, 75 Dale-st.

Portsmouth. — Flats.—78, Unicorn-st., and 95, Church-path North, for T.C. Adrien J. Sharp, L.R.I.B.A., The Guildhall. Dep. £3 3s.

Sheffield.—Heating Installation.—Steam mains and calorifiers at night nurses' home, Lodge Moor Hospital, for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £3 3s.

Southwold.—Houses.—24, at Roydon, for T.C. B.S. Dep. £2.

Usk.—House.—At Monmouthshire Institute of Agriculture, for Monmouthshire C.C. Colin L. Jones, L.R.I.B.A., County Hall, Newport. Dep. £1 1s.

JANUARY 20.

Arbroath.—Houses.—42 four-apartment at Stanley-st., for T.C. B.E. Dep. £1.

Carlisle. — Installation. — Of central heating at Currock House, for T.C. City S. Dep. £1 1s.

Greenisland.—School.—For Larne Regional E.C. Architect, Ministry of Finance (Room 124), May-st., Belfast. Dep. £2 2s.

Hawarden. — Houses. — 48, at Aston Bank, Hawarden, and 62, at Tryddyn, for R.D.C. G. I. Reidford, Council Offices. Dep. £2 2s.

Higham Ferrers.—Houses.—46, on housing estate, for T.C. B.S. Dep. £2 2s.

South Shields.—Houses.—86, at Cornwallis-sq. and Commercial-rd., for North-Eastern Housing Assoc., Ltd. John Reid, B.E., Town Hall, South Shields. Dep. £2 2s.

Stepney.—Dwellings.—100, on Beccles-st., for B.C. Culpin & Son, F./A.R.I.B.A., 3, Portsmouth-st., W.C.2. Dep. £10.

JANUARY 21.

Barnsley. — Extension. — To cubicle block at Kendray Isolation Hospital, for T.C. B.E.

Bolton.—Erection.—Of 14 blocks of 2-story masionettes on Crescent estate, Crescent-rd., for T.C. Housing Director, Westminster Bank-chambs., Old Hall-st. North. Dep. £5 5s.

Chatham.—Supply.—Of unclimbable wrought-iron fencing, for T.C. R. L. Honey, B.E. and S.

Dumfries.—Houses.—152, at Troqueer Holm, for T.C. R. S. Osborne, B S.

Ventnor.—Houses.—40, in Newport-rd., for U.D.C. H. Cleator Cowen, S., Ventnor, Isle of Wight.

JANUARY 22.

Belfast.—Schools.—At Greencastle, for Very Rev. Arthur J. Kennedy. M'Carthy & Lilburn, surveyors, Scottish Provident-bldgs. Dep. £5 5s.

Durham.—Works.—At Billingham school, installation of low pressure hot water heating apparatus; Blaydon East school minor alterations, etc.; Burnhope school, levelling, drainage and laying-out of playing fields; Frosterley South school, improvements to playground; Witton-pk. school, alterations and improvements; Witton-le-Wear school, improvements to playgrounds; Ryhope secondary school, additions and alterations, extensions to low pressure hot water heating apparatus; also tar-paving to playgrounds at various schools, for C.C. F. Willey, F.R.I.B.A., 34, Old Elvet.

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***Oldbury.**—Schools.—Moat Farm estate, for T.C. Education Officer, Municipal Bank-chambs. Dep. £2 2s.

JANUARY 23.

Blackpool.—Erection.—Of bus and car parking station in Talbot-rd., for C.B. T.C. Dep. £2.

Lancaster. — Mortuary. — At Bolton-le-Sands, for R.D.C. S., 5, Dalton-sq.

Penmaenmawr.—Dwellings.—40, for U.D.C. J. Parry-Hughes, E. and S. Dep. £3 3s.

JANUARY 25.

***Axminster.**—Erection.—Of post office and telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Batley.—Installation.—Of heating and hot-water installations at County Poor Law Institution, for Yorkshire C.C. Percy O. Platts, A.R.I.B.A., West Riding Architect, County Hall, Wakefield. Dep. £5.

Beckenham.—Erection.—Of an additional storey to Town Hall, for T.C. B.E. and S. Dep. £2.

Bedworth.—Houses.—100, of various types, on Wootton-st.-Marston-la. housing site, for U.D.C. S. Dep. £1 1s.

Chailey.—Garage.—And store at pumping station at Offham, for R.D.C. Council Offices, 31, High-st., Lewes.

Chailey. — Electrical Wiring. — Of Isolation Hospital, for R.D.C. S., 31, High-street, Lewes.

***Enfield.**—Erection.—Of park keeper's cottage at Whitewebbs-pk., for U.D.C. E. and S. Dep. £1 1s.

***Finchley.**—Shop Fronts.—And interior work in showrooms, for B.C. B. Electrical E., Squires-la., N.3. Dep. £2 2s.

Keighley.—Alterations.—At police station, for West Riding Standing Joint Committee. West Riding Architect, County Hall, Wakefield.

***London.**—Extensions.—To refuse destructor at sewage works, Summers-la., for Finchley B.C. B.E. and S., 234-296, Regents Park-rd., N.3. Dep. £5.

Luton.—Erection.—Of General Hospital, corner of Dunstable-rd. and Lewsey-rd., for Management Committee. Parlott & Dunham, architects, 9, George-st. West. Dep. £5 5s.

Manchester.—Erection.—Of trolley bus garage, at Rochdale-rd., for T.C. City Architect. Dep. £1 1s.

Rowley Regis.—Municipal Buildings.—At Halesowen-rd. and Barrs-rd., Old Hill, for T.C. Clifford Buckley, T.C., Council House, Old Hill. Dep. £5 5s.

Talsarnau, nr. Harlech.—Residence.—For Merioneth E.C. Norman L. Jones, County Architect, County Offices, Dolgelley. Dep. £3 3s.

***Wallington.**—Extensions.—To highways depot at Bute-rd., for Beddington and Wallington U.D.C. E. and S. Dep. £3 3s.

Willesden.—Flats.—265, on Church End housing estate, Curzon-cres., for B.C. B.E., Dyne-rd., Kilburn. Dep. £10 10s.

Yorkshire.—Works.—At Bingley, staircase and exit at grammar school; Selby, formation of asphalt tennis court and supply and fixing of tennis court surrounds at girls' high school, for West Riding C.C. Education Officer, County Hall, Wakefield.

JANUARY 28.

Omagh.—Construction.—Of milk dairy and meat store, for Mental Hospital. Vincent H. Murnaghan.

Southampton.—Installation.—Of low-pressure hot water heating system and domestic hot and cold water supply at Bassett Green school, for T.C. B.E.

JANUARY 27.

Arundel.—Construction.—Of steps to town quay, for T.C. B.S. Dep. £1 1s.

***Hackney.**—Construction.—Of dispensary and depot, at Hillman-st., for B.C. B.E. and S. Dep. £2 2s.

***Hackney.**—Various Trades.—In connection with erection of 50 flats in Shacklewell-la., for B.C. W. Lane, F.I.A.S., 8, Adam-st., Adelphi, W.C.2. Dep. £2 2s.

Taunton. — Erection. — Of offices and showrooms for Electricity Dept., for B.C. H. S. W. Stone, F.R.I.B.A., Lloyds Bank-chambs., 7, Fore-st. Dep. £2 2s.

JANUARY 30.

***Bedford.**—Erection.—Of secondary school for boys at Badgers-hill, Luton, for C.C. C. Dep. £2 2s.

Kingston-upon-Hull. — Installation.—Of heating, hot-water and steam supplies and services, etc., at Mental Deficiency Institution, Winestead Hall, Patrington, for T.C. Herbert Hamer, City E. Dep. £2.

FEBRUARY 1.

Bangor, N. Wales.—Houses.—333, and 4 shops, at Central Re-development Area and on Maes Geirshen estate, and 2 shops on Maes Tryfan estate, for T.C. B. Price Davies, F.S.I., L.R.I.B.A. Dep. £3 3s

***Northampton.** — Extensions. — To Kettering Public Assistance Institution, for C.C. County Architect.

FEBRUARY 6.

***Southport.**—Demolition.—Of part of Public Assistance Offices, Birch-st., and erection of new offices, for C.B. B.E. Dep. £1 1s.

FEBRUARY 8.

***Hendon.**—Construction.—Of (*a*) sewers and roads, (*b*) 140 houses, Dole-st. housing scheme, Mill Hill, for B.C. B.E. and S. Dep. £4 4s.

FEBRUARY 10.

***Castle Donington.**—Houses.—12, in Mill-la., Kegworth, for R.D.C. Broad Hill, architect, Kegworth, near Derby. Dep. £3 3s.

FEBRUARY 22.

***Rainhill.**—Extensions.—To County Mental Hospital. Richard Owens & Son, 3, Crosshall-st., Liverpool, 1. Dep. £2 2s.

NO DATE.

***London.**—Army Contracts.—Chief Ordnance Officer, Royal Arsenal, Woolwich, S.E.18.

MATERIALS, etc.

JANUARY 11.

Birkenhead.—Limestone.—And granite macadam, for T.C. B.E. and S.

Chorley.—Road Materials.—For R.D.C. W. Cotterill, S.

JANUARY 12.

Norfolk.—Road Materials.—For C.C. S. H. Warren, C.S., Stracey-rd., Norwich.

Tendring.—Portable Ranges.—To houses, for R.D.C. S. E. Carroll, S., Weeley House, Weeley, nr. Clacton-on-Sea.

JANUARY 13.

Axbridge.—Cement.—For R.D.C. J. K. Dunster, D.S., Winscombe.

Huddersfield. — Materials. — In connection with 2,760 houses, and alternatively 2,000 houses, for T.C. B.E. and S.

JANUARY 14.

Montgomery. — Supply. — Of furniture and/or metalwork and woodwork tools and equipment for Newtown County Intermediate School, for E.C. Director of Education. Dep. £2 2s.

Salop.—Broken Granite.—For C.C. W. H. Butler, C.S., County-bldgs., Shrewsbury.

JANUARY 15.

Farnborough.—Road Materials.—For U.D.C. I. C Jenkins, E. and S.

Gainsborough.—Road Materials.—E. Donelly, S., 17, Morley-st.

Grimsby.—Broken Granite and Chippings.—For R.D.C. J. P. Pike, E. and S.

JANUARY 16.

Blackburn.—Highway Materials.—For T.C. B. and Water E.

Durham.—Road Materials.—For C.C. William J. Merrett, C.E. and S., 43, Old Elvet, Durham.

Gillingham.—Road Materials.—For T.C. John L. Redfern, B.E. and S.

Harrow.—Broken Granite.—And granite chippings, for U.D.C. E. and S., Council Offices, Uxbridge-rd., Stanmore.

Horsforth.—Road Materials.—For U.D.C. S.

Slough.—Pipes.—For U.D.C. Water E.

Tipton.—Materials.—For building 58 houses, for U.D.C. Charles R. Gallie, A.R.I.B.A., Housing Director, Municipal-bldgs., Sedgley-rd. West.

FEBRUARY 3.

***Battersea.**—Materials.—For B.C. T.C., Town Hall, Lavender Hill, S.W.11.

FEBRUARY 5.

***Torquay.**—Supply.—Of lime, bricks, etc., for the year, for T.C. B.E.

ENGINEERING, IRON AND STEEL

JANUARY 11.

Brierley Hill.—Reconstruction.—Of Delph canal bridge, together with ancillary roadworks, for Staffordshire C.C. C.S., County Buildings, Stafford. Dep. £5.

Dublin.—Removal.—And replacement of river piles and capping at Sarsfield Quay, River Liffey, for C.B. City E., 28, Castle-st., Dublin.

Lancashire.—Widening.—Of Alter Bridge, and widening and strengthening of Blackburn Brow railway bridge, for C.C. C.S. and Bridgemaster, County Offices, Preston.

Newcastle-under-Lyme.—Widening Bridge.—Over Lime Brook, widening and reconstructing carriageway and footpaths and other works, for T.C. B.S., Nelson-pl. Dep. £2.

JANUARY 12.

Leeds.—Excavation Work.—And construction of bridge work in reinforced concrete, and taking down and filling in of existing bridge and culverts in East-st. and other works for diversion of Timble Beck, for T.C. J. E. Acfield, City E.

JANUARY 13.

Buckinghamshire.—Works.—At Loughton-Bradwell-rd., demolition of existing and erection of new bridge in Loughton Village, with raising of bridge approaches; Wolverton-Haversham-rd., extension of existing two-span skew brick bridge over River Ouze with flood-water culverts, and raising, widening and reconstruction of highways, for C.C. C.S., County Offices, Aylesbury.

Feltham.—Widening.—And reconstruction of bridge over Dukes River, Faggs-rd., for Middlesex C.C. C.E., Bridges Section, No. 10, Great George-st., S.W.1. Dep. £2 2s.

JANUARY 14.

Gosport.—Demolition.—And reconstruction of Ann's Hill railway arch, for T.C. B.E. Dep. £5.

ROAD, SEWERAGE AND WATER WORKS.

JANUARY 11.

Biggleswade.—Construction.—Of sewer, for U.D.C. W. S. Green, E. and S., Church-st. Dep. £1 1s.

Broadstairs.—Making-up.—Of Bradstow-way and Cecilia-grove, sewering of Victoria-av., and making-up and sewering of Whitfield-av., for Broadstairs and St. Peters U.D.C. S. W. Richardson, E. and S., Pierremont Hall. Dep. £3.

Chatham.—Construction.—Of road and other works at The Lines, for T.C. R. L. Honey, B.E. and S. Dep. £2 2s.

Chatham.—Storm-Water Drainage.—For T.C. W. H. Bradford & Son, engineers, Albion-chambs., King-st., Nottingham. Dep. £5 5s.

Esher.—Road.—At Tilt, for U.D.C. S. Dep. £2 2s.

Hornchurch.—Laying.—Of concrete pipe and stoneware pipe surface-water sewer in Rainham from Beam River to junction of Wood-la., for U.D.C. T. E. Spencer, Council Offices, Billet-la.

Looe.—Raising.—Of road at West Looe Quay, for U.D.C. S.

Newcastle-under-Lyme.—Improvements.—To Newcastle-st., Silverdale, for T.C. B.S. Dep. £2.

Prestwich.—Widening.—And reconstruction of Station-rd. and Links-rd., for T.C. B.E.

Royton.—Provision.—And laying of mastic asphalt surfacing along Higginshaw-la., for U.D.C. S. Dep. £1 11s. 6d.

Sandown.—Construction.—Of stoneware sewers, underground pump chamber and sump, together with cast-iron rising main and other incidental works at The Esplanade, for Sandown-Shanklin U.D.C. S.

Stoke-on-Trent.—Diversion.—And reconstruction of Fowlea Brook culvert, for T.C. City Sewage E., Leek-rd. Dep. £2.

Wilts.—Construction.—Of Liddington by-pass on Swindon-Hungerford-rd., for C.C. H. S. Ganderton, C.S., County Offices, Trowbridge. Dep. £2.

JANUARY 12

Adlington.—Construction.—Of earthenware pipe sewer with necessary manholes, etc., for U.D.C. T. Warwick, S.

Colwyn Bay.—Reconstruction.—Of Princess-drive, for T.C. W. J. Dunning, E. and S.

Gateshead. — Paving. — Of Back Newall-terr., Saltwell-rd. extension, for T.C. F. H. Patterson, B.E.

King's Lynn.—Laying.—Of stoneware sewers on West Lynn housing site, for T.C. J. C. Matthew, B.E.

Leatherhead.—Making-up.—Of Downs-way, Blackthorne-rd. and Childs Hall-rd., for U.D.C. J. L. Davies, E. and S. Dep. £1 1s.

Southend-on-Sea.—Resurfacing.—Of carriageways with natural rock granited asphalt surfacing, for T.C. Robert H. Dyer, B.E. and S. Dep. £1 1s.

Stretford.—Sewering.—And paving of various streets, for T.C. E. Parker, B.S. Dep. £2 2s.

JANUARY 13.

Knighton.—Laying.—Of sewer in Penybont-rd., for U.D.C. Captain Shrimpton, Bridge-st.

Slough.—Providing.—And laying glazed stoneware pipe sewers, manholes and other appurtenant works at Twinches-la., for U.D.C. A. Bromly, E.

Twickenham.—Road Works.—In connection with installation of traffic control signals, for T.C. G. R. King, B.E. Dep. £2.

Virginia.—Construction.—Of sewerage system, for Co. Cavan Board of Health. J. J. Winters, 27, Molesworth-st., Dublin. Dep. £5 5s.

JANUARY 14.

Belfast.—Sewering.—Paving, etc., of certain streets and back streets, for T.C. City S., City Hall. Dep. £1 1s.

JANUARY 15.

Hale.—Street Making.—For U.D.C. C. P. Higginbotham, S. Dep. £1 1s.

JANUARY 16.

Bakewell.—Providing.—Laying and jointing of iron pipes and other fittings in Little Hucklow and Foolow, for R.D.C. Brady & Partington, engineers, Market-st., Chapel-en-le-Frith. Dep. £2 2s.

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Edinburgh. — Construction. — Of fireclay pipe sewers, the forming and bottoming of carriageways and footpaths of roads, supplying and laying whinstone kerbs and channels, and forming and bottoming of footpath on Mount Lodge housing area, Portobello, for T.C. City E., 329, High-st.

Harrow.—Widening.—And improvement of Marsh-rd., Pinner, for U.D.C. H. W. Rackham, S., Council Offices, Stanmore. Dep. £3 3s.

Orpington.—Sewering.—And making-up of Peel-rd., Farnborough, and incidental works, for U.D.C. Thomas Watson, E. and S., Bark Hart. Dep. £3 3s.

Slough.—Laying.—And jointing mains in new roads, for U.D.C. Water E., William-st.

JANUARY 18.

Altrincham.—Surface-water Sewers.—For U.D.C. H. E. Brown, S. Dep. £2 2s.

Carlisle.—Flagging.—Of various streets, for T.C. City S. Dep. £1 1s.

Cheshire.—Constructing Road.—Together with pitched service roads, to by-pass village of Greasby, for C.C. G. E. Ashforth, C.S., Watergate House, Watergate-st., Chester. Dep. £5 5s.

Chesterfield.—Laying.—Of sewers and construction of sewage disposal works at Wessington, for R.D.C. J. B. Wikeley, E., Public Assistance Offices, Newbold-rd.

Epsom and Ewell.—Widening.—Of Banstead-rd., part 1, for U.D.C. Norman Auty, E. and S. Dep. £2 2s.

Feltham.—Sewerage Works.—At Hanworth, for U.D.C. H. W. A. Carter, E. and S. Dep. £2 2s.

JANUARY 19.

Chesterfield.—Road Works.—And sewerage at Marshlane housing estate, Eckington, for R.D.C. J. B. Wikeley, E., Public Assistance Offices, Newbold-rd.

Public Appointments

JANUARY 11.

Manchester. — Architectural Assistant. — For T.C. Housing Director.

JANUARY 12.

Chepping Wycombe. — Stores Clerk. — For C.C. B.S.

JANUARY 16.

Surrey. — Constructional Assistant. — For C.C. Clerk, Kingston-upon-Thames.

JANUARY 18.

***Barking.**—Surveying Assistant.—For B.C. B.E. and S.

***Coventry.**—Architectural Assistant (Temp.).—For T.C. City E. and S.

***East Grinstead.**—Clerk of Works.—For U.D.C. C.

Montgomery.—Architectural Assistant and Junior Architectural Assistant.—For C.C. C. Welshpool.

Wakefield.—Two Assistant Quantity Surveyors.—For West Riding of Yorkshire C.C. Education Officer.

JANUARY 19.

***Cheshire.** — Quantity Surveyors' Assistant (Temp.). — For C.C. F. Anstead Browne, F.R.I.B.A., Chester.

***Cheshire.**—Quantity Surveyor (Temp.).—For C.C. F. Anstead Browne, F.R.I.B.A., Chester.

***Cheshire.** — Junior Architectural Assistant (Temp.).—For C.C. F. Anstead Browne, F.R.I.B.A., Chester.

***Cheshire.**—Architectural Assistant (Temp.).—For C.C. F. Anstead, Browne, F.R.I.B.A., Chester.

JANUARY 20.

***Sheffield.**—Architectural Assistant (Temp.).—For T.C. W. Geo. Davies, F.R.I.B.A.

***Sheffield.**—Clerk of Works (Temp.).—For T.C. W. Geo. Davies, F.R.I.B.A.

Staffordshire.—Architectural Assistant (Temp.).—For C.C. County Architect.

***York (East Riding).**—Two Architectural Assistants.—For C.C. County Architect, Beverley.

JANUARY 22.

***Croydon.**—Junior Architectural Assistant.—For C.B. T.C.

***Sidcup, Kent.** — Architectural Draughtsman (Temp.).—For Chislehurst and Sidcup U.D.C. C.

***Stoke-on-Trent.**—Two Assistant Quantity Surveyors.—For T.C. T.C.

JANUARY 23.

***Wolverhampton.**—Junior Assistant.—To Superintendent of Education Buildings. For C.B. Director of Education.

JANUARY 25.

London. — Design Master. — C., Northern Polytechnic, Holloway, N.7.

***Luton.**—Clerk of Works.—For new Bute Hospital. Secretary.

NO DATE.

***Chelsea.**—Superintendent of Buildings, Plant and Machinery.—At Polytechnic, Manresa-rd. Principal.

***London.**—Technical Office Assistant.—For Govt. of the Gambia for Public Works Dept. Crown Agents for the Colonies, 4, Millbank, S.W.1. Quoting M/4704.

***London.** — Architectural Assistants. — For H.M.O.W. Chief Architect (Room 65A), Office of Works, Storey's Gate, S.W.1.

***London.**—Clerk of Works.—For Air Ministry. Secretary (W.B.9), Adastral House.

***London.**—Assistant Quantity Surveyors (Temp.).—For Air Ministry. Secretary (W.B.9), Adastral House, W.C.2.

***Somerset.**—Clerk of Works.—For C.C. County Architect, Taunton.

***York.**—Architectural and Civil Engineering Assistant.—C.R.E., West Riding Area.

CURRENT & PROPOSED BUILDING WORK*

Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; B.S. for Borough Surveyor; B.E. for Borough Engineer; D.S. for District Surveyor; C. for Clerk; T.C. for Town Clerk; C.E. for County Engineer; C.S. for County Surveyor; S. for Surveyor; E. for Engineer.

Aberystwyth.—T.C. to acquire field at Penparcau for housing purposes.

Ashton-under-Lyne.—Lancashire P.A.C. propose nurses' home at Lake Hospital. Plans by County Architect, S. Wilkinson, F.R.I.B.A., Preston. Tenders to be shortly invited.

Barking.—T.C. received formal sanction of M.H. to borrowing of £2,100 for 2 blocks of 4 flats each at Red Lion-pl. and Tanner-sq.

Barnes.—T.C. approved: Extensions at Kew-works, Mortlake-rd., by Kent Bros., Electric Wire Co., and E. H. Phillips, Ltd.; extension, comprising store, at 389, Upper Richmond-rd., by T. H. Adamson & Sons, for Sunfields, Ltd.

Bath.—S. to Corporate Property Committee of T.C. to obtain tenders for repairs at 29, Broad-st.—Improvement scheme to be carried out at 29, Milsom-st., at £700. A. J. Taylor, F.R.I.B.A., architect, and W. E. Underwood and Son, quantity surveyors.—Tenders to be obtained for repairs at 9 and 10, Pulteney-bridge.—South end of Pulteney-bridge to be restored, and Mowbray A. Green, architect, to be asked to advise.—Extensions to be made to Oldfield senior schools. Mowbray Green and Hollier to be appointed architects, and W. E. Underwood & Son, quantity surveyors.—City E. to obtain tenders for staff accommodation at Isolation Hospital.—M.H. approved as slum clearance: Charlton-bldgs., Ferry-pl., Penny's-bldgs. and Rosehill.—S. of Corporate Property to prepare specification and obtain tenders for painting and decorating reference library.—Plans approved:—Sub-station, The Shrubbery, Lansdown; 20 houses, Horsecombe Brow; warehouse, James-st. West.—New bridge at Newton being proposed.—Plans for rebuilding 17-19 (odd), Westgate-st., approved.

Beddington and Wallington.—U.D.C. instructed S. to prepare plans for public conveniences on site adjacent to Town Hall and public library.—Plans passed: West-av., caretaker's cottage, Surrey E.C.; Croydon-rd., new road, 13 houses and 10 bungalows adjacent to "The Holt," Wates (Streatham), Ltd., 98, London-rd., Mitcham.—Council received receipt of notice of Surrey C.C.'s intention to make additions to infants' department of Hackbridge Council school, and to make application to M.H. for consent.

Bournemouth.—T.C. approved: Shops with living accommodation, Wimborne-rd., Northbourne, W. E. Drew; news theatre and restaurant, 4, Lansdowne-cres., C. W. Hart & Sons; reconstructing Lancaster Hotel, Southcote-rd., H. A. Frampton Jones; amended plans, shops, flats and offices, Christchurch-rd., Elcock & Co.; 16 houses and garages, Warnford-rd. and Holdenhurst-av., J. N. Hardy; hotel, "Ferncliff," East Overcliff-dr., Mrs. A. E. Phillips

Bradford.—Corporation Mental Welfare Sub-committee recommend block of wards and workshops at Westwood Institution, Clayton Heights, at £8,000.

Chelmsford.—T.C. negotiating for housing sites at Melbourne Park estate (70 acres), Priors estate (25,011 acres) and between Boarded Barnes estate and Patching Hall-ln. (42 acres).—T.C. proposes infants' school in Waterhouse-ln. or Writtle-rd., to accommodate 250.

Essex.—C.C. recommend following:—Sketch plans for swimming bath, two gymnasia, pavilion, changing rooms, etc., at the South-East Essex Technical College, at £26,613; part of Altnacealgach estate, Colchester, be appropriated to purposes of education and used as a site for a new county high school for girls; purchase of land, Pilgrims Hatch estate, Brentwood, for proposed junior school; sketch plans for replacing of Cressing Council school, which was destroyed by fire, with accommodation for 150 pupils, at £1,639; purchase of site in Ravenscourt-dr., Hornchurch, for proposed infants' school; enlargement of Chigwell school, at £431; sketch plans for erection of Witham proposed council junior school, with accommodation for 300 pupils, at £12,990; widening of roads and increase of headroom under (*a*) bridge No. 1030 over Clacton-Harwich-rd. at Thorpe Railway Station; and (*b*) bridge No. 1033 over Valley-rd., Clacton-on-Sea, at £30,000; repairs and renovations to house and farm buildings at Broomfield Hall Farm, at £965; sketch plans prepared by County Architect for children's hospital at Crowlands site, Chadwell Heath, with accommodation for 322 children's beds and 80 maternity beds in first instance, but capable of expansion to accommodate 500 cases, be submitted to M.H. for their observations; subject to approval of M.H. to advertise for tenders for extension of existing porter's lodge block at Billericay Institution so as to provide master's office, general office, large store and weighbridge office on ground floor, and porter's quarters, storage room for records, sewing room and clothing store on upper floor, at estimated cost of £2,029; at Billericay Institution, redecoration of former dining-room and carrying out of renovations to men's infirm ward and adjoining lavatories, at £210.

Failsworth.—U.D.C. propose additional houses, Dean-st. site and Wrigley Head site. Plans by J. W. E. Brown, S.

Flint.—H. Tetlow, builder, Llandudno Junction, proposes 54 houses at Bagilt. Plans by L. Paton Watson, architect, Well-st., Holywell.

Glossop.—T.C. propose 'bus station and waiting rooms on site of Old Theatre Royal. Plans by B.S.

Gosport.—T.C. to demolish 74 houses under slum-clearance scheme.

Grantham.—Grantham Equitable Co-operative Industrial Society, Ltd., St. Peter's-hill, propose premises, London-rd. and St. Catherine's-rd. Plans prepared in Architects' Department, Co-operative Wholesale Society, Balloon-st., Manchester. Tenders to be invited.

Guildford.—T.C. approved development of Stoughton Grange estate.

Harrogate.—It is proposed to erect maternity block at General Hospital. Plans by F. Tranmer, architect, Westminster-chambs.

Heston and Isleworth.—T.C. approved: G. L. Russell, 18 houses, new road off Cambridge-rd.

Hornchurch.—U.D.C. received M.H. consent to borrow £7,500 for purchase of land in Billet-la. and North-st. for proposed civic centre.

Jarrow-on-Tyne.—T.C. approved plans by B.E. for community hall at £8,000.

Kingston-on-Thames.—B.S. to redecorate internally 26 houses in Kingston-rd.—T.C. sold to Surrey C.C. land junction of Grange-rd. and Knights-pk. for new school of art.—B.S. submitted sketch plan of pavilion providing lavatory, dressing and storage accommodation on Fairfield.—Plans passed: 122, Acre Road, carpet process building, A. E. Durham; Richmond-rd., blocks of 6, 9 and 11 garages, Patridge & Daniel.

Lancashire.—E.C. propose 4 nursery schools at Ashton-in-Makerfield, Litherland, Newton-in-Makerfield, Droylsden, and junior and infants school at Penwortham. Plans by Stephen Wilkinson, F.R.I.B.A., County Architect, Preston.

London (Battersea).—B.C. approved: E. A. Jackson, garage, Surrey Sterilized Milk Co., in Foote Row; G. E. & K. G. Withers, alterations and additions to garage, 247/9, Lavender-hill; L. O. Woodward, extension for showroom and manager's flat, 25, St. John's-rd.; W. Stewart, on behalf of Brandons Putney Brewery, additions, "Latchmere Arms" b.h., 104, Cabul-rd.

London (Kensington).—B.C. to purchase 187-191 (odd), Walmer-rd.—32, St. Charles-sq., W.10, to be purchased by Council for housing large families.—Plans passed: 2 lock-up shops, adjoining 1, Kynance-pl.

London (Lewisham).—B.C. approved:—Bunting Construction Co., Ltd., flats on site of 34, 36 Silverdale, Sydenham; F. L. Buckley, rebuild mission hall, 95, Wells Park-rd., Sydenham; Wates (Streatham), Ltd., houses, Catford Park estate, Catford; M. Macintosh, houses on Tewkesbury Lodge estate, Forest Hill; C. W. G. Davies, garages at Canonbie-rd., Forest Hill; L. A. Culliford, layout of site on east side of Beckenham Hill-rd., Catford.

London (Poplar).—B.C. recommend Paradise-cottages (Gray-st.), Nos. 1-7, consecutive; Sarah-cottages (8, 10, 12, 14 and 16, Lindale-st); Ebenezer-pla. (Chrisp-st.), 2, 3, 4 and 5; Milton-pl. (Chrisp-st.), 1-9 consecutive; and Upper North-st. (No. 61) and Hind-st. (No. 110) be demolished.

Manchester.—Rev. W. Rowland Jones and Parochial Church Council of St. Hilda's Church, Audenshaw, propose first portion of new church on site of church which was recently destroyed. Diocesan Architect, Robert Martin, F.R.I.B.A., 90, Deansgate.

Merton and Morden.—U.D.C. received notice from Surrey C.C. of proposal to apply to M.H. for loan for erection of block of four classrooms at Rutlish School.—Plans passed: Flats in London-rd. opposite Holt, by G. T. Crouch, Ltd.; 30 houses, Epsom-rd. at Stonecot-hill and road No. 4; revised lay-out of houses, Morden Farm estate providing for 2,328 houses to be undertaken by G. T. Crouch, Ltd., Goodings, and Wates; sub-station, road No. 1, off Garth-rd., County of London Electric Supply Co., Ltd.; shops and flats, 45-53, Martin-way.

Newcastle-on-Tyne.—Plans prepared by Newcombe & Newcombe, 23, Eldon-sq., for College of Medicine.—M.T. approved in principle plans for widening of Coast-rd. from Newcastle to Tynemouth, to cost £250,000. Work will be undertaken jointly by City Council and Wallsend and Tynemouth T.C.s.—Extensive alterations to be carried out to Theatre Royal. Cackett, Burns-Dick & MacKellar, Ellison-pl., architects.—Boy Scouts' headquarters to be built in Walker-rd., for which Hetherington & Wilson, County-chambs., are architects.—Parsons & Co., Ltd., engineers, Heaton-rd., propose extensions to blade-shop steelworks, etc.

Oakworth (Keighley).—Additions to be shortly commenced at junior school, for West Riding C.C., at £2,850. Plans by H. Wormald, Architect to the Education Department, Wakefield.

Portsmouth.—The Corporation Piers, Beach and Publicity Committee unanimously adopted scheme for development of Lumps Fort site.

Rawtenstall.—T.C. approved:—14 bungalows off Newchurch-rd., Rawtenstall, H. Trickett & Son, Ltd.; shop and offices, Newchurch-rd. and Bank-st., Rawtenstall, for Edwin Frost.

Salford.—Finance Committee to spend £4,700 on erection of café in Buile Hill-pk., adjoining Natural History Museum.

Seaham Harbour.—U.D.C. approved road-development schemes to cost £111,000 and involving abolition of two level crossings at Dawdon and Seaham Station.—J. B. Abbey, S., is architect for central bus station which U.C. propose to build.

Southall-Norwood.—T.C. received sanction to portion of Mount Pleasant allotments site being used as housing site.—Shelter to cost £260 proposed in recreation ground. Plans by B.S.—Plans passed: New stores at works, Windmill-la., Associated Equipment Co., Ltd.; internal alterations, "The Norwood Stores" off-licence, Norwood-rd., Charrington & Co., Ltd.; extension of offices, Tentelow-la., C. A. Christiansen.

Southend-on-Sea.—C.B. approved: 53 bungalows, Sherbourne-gdns., Belfairs Garden Estates, Ltd.; 2 blocks of flats (104 flats), Broadway West, Leigh, G. Eliot Clarkson.

Sunderland.—Architects for hotel at Cross Plains Farm, for Truman, Hanbury and Buxton, Ltd., bottlers, etc., are Watkin & Maddox, National Provincial Bank-chambs., Burslem, Stoke-on-Trent.

Tynemouth.—F. R. N. Haswell & Son, 77, Tyne-st., North Shields, prepared plans for 20 houses and number of bungalows or self-contained houses in Glanton-rd. and Billy Mill-la., for G. R. Telford.—J. W. Moore, Ltd., Charlotte-st., North Shields, to rebuild their premises. Architect, W. Stockdale, 73, Howard-st., North Shields.—General Billposting Co., Ltd., 31, Westgate-rd., Newcastle-on-Tyne, propose warehouse and offices in Church-way, North Shields. Architects, Hays & Gray, Camden-st., North Shields.—Scheme being considered by Tynemouth & District Bus Co., Ltd., for extending garage at Northam-terr., Percy Main. Architects, Marshall & Tweedy, 129, Pilgrim-st., Newcastle-on-Tyne.

Walsall.—Col. G. C. Lowbridge, L.R.I.B.A., Education Architect, County-bldgs., Stafford, to prepare plans for new Queen Mary's school, for Board of Governors.

West Ham.—C.B. approved:—Extension to factory, 8 and 10, North-st., A. W. Corby; 4 self-contained flats and 8 lock-up garages at rear, 42-48, Avenue-rd., R. J. L. Slater.

Whaley Bridge.—R.D.C. approved plans for 22 houses on Jodrell estate, for E. A. Beard & Son, builders, Wharf Works.—Health Committee propose mortuary, Old Gas Works site.

Whitby.—U.D.C. to acquire "The Stone House," St. Hilda's-ter. It is their intention to convert premises for use as Council office and public library. Tenders for reconstruction work will be invited.

Wigan.—Board of Royal Albert Edward Infirmary, Wigan-la., proposing additions. Plans by Thomas Worthington & Sons, FF.R.I.B.A., 178, Oxford-rd., Manchester. Contracts not placed.

Willesden.—T.C. approved: Block of flats, corner of Mapesbury-rd., Willesden-la. and Christchurch-av., D. H. Green; synagogue, Heathfield Park, Willesden Green Hebrew Congregation; flats and garages, corner of Mapesbury-rd. and Mowbray-rd., Mapesbury, Ltd.; 46 flat type houses, Barry-rd. extension and roads off, Marlborough Securities, Ltd.

Wisbech.—T.C. approved: Lerowe-rd., lay-out 38 houses, A. Clare.

Withnell.—Lancashire E.C. propose senior school. Plans by Stephen Wilkinson, F.R.I.B.A., County Architect, Preston.

Wood Green.—B.S. to renovate Western-rd. baths at £410.

Worcester.—A. V. Rowe, County Architect, 38, Foregate-st., Worcester, prepared scheme for improving acoustics of Council chamber at Shire Hall.

Yeadon.—West Riding C.C. given notice of its intention to erect senior elementary Council school to accommodate 440 children, to serve districts of Yeadon and Rawdon. Plans being prepared by H. Wormald, Education Dept. Architect, Wakefield.

Yeadon.—Improvements to aerodrome have been decided on by Leeds-Bradford Joint Aerodrome Committee, to cost £40,000.

York.—E.C. recommending to City Council scheme for technical institute, art school and day school on commerce at Scarcroft-rd.

* See also List of Contracts open.

** **In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.**

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"Phorpres" Whites (King's Cross) 3 11 3
"Phorpres" Rustic Facings (King's Cross).. *3 6 3

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Headers	22 10 0	One side and two Ends	32 10 0
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Delivered London Area.

CLINKER CONCRETE.

2" per yd. sup.	1 6	3" per yd. sup.	2 0
2½" " " ..	1 8	4" " "	2 4

CRANHAM TERRA COTTA.

2" per yd. sup.	3 0	3" per yd. sup.	3 8
2½" " " ..	3 6	4" " "	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2" ..	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"..	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

	s. d.	
Thames Ballast	7 3	per yd. delivered 2 miles radius Paddington.
Pit Ballast	6 3	" "
Pit Sand	7 9	" "
Washed Sand	8 3	" "
¾ in. Shingle	7 3	" "
¾ in. Broken Brick ..	11 3	" "
Tan Breeze	8 3	" "

CEMENT.

Best British Portland Cement, Standard Specification, delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable) :—

	£ s. d.
2 ton loads and upwards site ..... Per ton	1 19 0
1 ton to 4 tons site	2 1 0
Alongside Vauxhall in 80-ton lots	1 15 0
"Ferrocrete" Rapid Hardening Cement :—	
4 ton loads and upwards site	2 5 0
1 ton to 4 tons site	2 7 0
Alongside Vauxhall in 80-ton lots	2 1 0

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.

Water Repellent "Blue Circle" Cement, 30/- per ton extra on ordinary "Blue Circle" Portland Cement prices.

"Colocrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site 3 6 0

"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable) 1 ton and upwards site..... 8 15 0

Super Cement (Waterproof) paper bags free	3 9 0
Roman Cement	6 15 0
Parian Cement	6 0 0
Keene's Cement, White	6 0 0
" " Pink	5 12 6

Cementone Colours for cement according to tints per cwt. from £2 16 0.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	2 17 0	Sirapite, Coarse	3 10 0
" White ..	3 10 0	" Finish ..	3 18 0
Pioneer	3 10 0		
Super Carbo	2 7 6	4-ton loads & over London Area, paper bags free.	
Carbo Setting....	2 12 6		
Best Ground Blue Lias Lime	1 17 6	Grey Stone Lime	2 2 0
		Chalk Lime	2 2 0
Granite Chippings	1 12 0	Hair per cwt. ..	2 2 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carr. paid.

Stourbridge Fireclay in sacks 37s. 0d. per ton at rly. dep.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube .... s. d. 2 10

BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station, per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. per ft cube 3 1½
Selected approximate size one way, 1d. per cubic ft. extra; selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube 4 4½
Do. do. delivered on road waggons at above stations, per ft. cube 4 5½
White basebed, 3d. per ft. cube extra.
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average*, and ½d. beyond 30 ft.

HOPTON-WOOD STONE—
F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10ft. and over P.ft.cb. 14 0
Sawn two sides..... 22 6

HOPTON-WOOD STONE—
Sawn three or four sides 27 9

CHILMARK—RANDOM BLOCK—
At Nine Elms, per ft. cube 3 11

YORK STONE, BLUE.—*Robin Hood Quality.*
Delivered at any Goods Station, London.
6 in. sawn two sides landings to sizes (under 30 ft. super) ..... Per ft. super 5 6
6 in. rubbed two sides, ditto .. " 6 0
3 in. sawn two sides slabs (random sizes) ..... " 2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) ..... " 1 6½
1½ in. to 2 in., ditto ..... " 1 3¼

HARD YORK—
Delivered at any Goods Station, London.
Scappled random blocks..... Per ft. cube 6 3
6 in. sawn two sides landings to sizes(under 40 ft. super) .....Per ft. super 5 1½
6 in. rubbed two sides, ditto .. " 6 1½
4 in. sawn two sides slabs (random sizes) ..... " 3 1½
3 in. ditto ditto ..... " 2 8
2 in. self-faced random flags....Per yd. super 7 6

CAST STONE.

Delivered in London area in full van loads, per ft. cube : Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 × 11.....	£23 10	3 × 6....	£18 10
4 × 9.....	22 10	3 × 11....	21 0
4 × 8.....	21 0	2 × 11....	21 0
4 × 7.....	21 0	3 × 9....	19 10
3 × 8.....	17 10	2½ × 9....	19 10
3 × 7.....	18 10	3 × 4½ ..	18 10
2½ × 7.....	18 10	3 × 4....	18 10

PLANED BOARDS.

1 × 11.....	£22 10	1 × 9....	£21

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾.....	16/-	1¼	25/-
⅞.....	17/-	1½	31/6
1	19/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.
1	21/-
1¼.....	26/-
1½.....	32/6

MATCHING (BEST).

Inches.	per sq.
¾	16/-
¼	18/6
1	22/6

ins. BATTENS.	s. d.
¾ × 2 per 100 ft.	2 6

SAWN LATHS. s. d.
Per bundle.... 2 3

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube.....	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube.....	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube.....	0 10 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt.	4 7 0 to 5 10 0

HUDDERSFIELD
Building Society

Experience has shown that the arrangements made by the Huddersfield to assist occupier borrowers have given the utmost satisfaction, and the service rendered has been greatly appreciated by builders' clients.

Write for information to The Huddersfield Building Society, Britannia House, 203, Strand. London, W.C.2, or to the Head Office, Britannia Buildings, Huddersfield. Andrew Stewart, C.A., Managing Director.

WHEN YOU INVEST—A HOUSE IS BEST!

SLATES.

First quality slates from Bangor or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	29 15 0	18 by 10	15 12 6
22 by 12	25 0 0	18 by 9	13 15 0
22 by 11	22 10 0	16 by 10	13 10 0
20 by 12	22 0 0	16 by 8	10 7 6
20 by 10	19 7 6		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. ..... Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£4 2 6
ditto hand-made ditto	4 10 0
Ornamental ditto	4 15 0
Hip and valley tiles (per dozen) Hand-made	0 8 6
Machine-made	0 8 0

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	£13 10 0
Plain Compound Girders	16 0 0
" " Stanchions	18 0 0
In Roof Work	20 0 0

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	14 5 0	⅜ in. to ½ in.	12 15 0
⅝ in.	13 5 0	⅝ in. to 2½ in.	12 5 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛in. to 6in. %	Genuine Wrot. (Puddled) Iron Tubes and Tubulars Sizes ⅛in. to 6 in. %	Standard Fittings Sizes. ⅛in. to 6in. %	Standard Flanges Sizes. ⅛in. to 6in. %
Gas	65	52½	57½	70
Water	61½	48½	52½	65
Steam ...	57½	45	47½	60
Galv. gas.	52½	40	47½	60
Galv. water	47½	35	42½	55
Galv. steam	42½	30	37½	50

C.I HALF-ROUND GUTTERS—London Price ex Works

Per yd in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/5½	1/1¼	4¾d.
3½ in.	1/6½	1/3	5½d.
4 in.	1/6¾	1/4¼	6¼d.
4½ in.	1/8	1/6½	9¼d.
5 in.	1/10½	1/8¾	10d.

O.G. GUTTERS.

3 in.	1/7¾	1/5½	7d.
3½ in.	1/9½	1/5½	7¾d.
4 in.	1/11	1/6½	8¼d.
4½ in.	2/-	1/9½	9¼d.
5 in.	2/4½	2/0¾	11¾d.

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles, Branches, stock angles.
2 in.	2/2¼	1/4½ 2/0
2½ in.	2/3½	1/6¼ 2/4½
3 in.	2/9¾	1/11 2/10¾
3½ in.	3/3¼	2/3½ 3/3½
4 in.	3/9	2/9 4/0½

Less 20 per cent. trade discount.
Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Stock,

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. ..	2 9¼	2 0	2 5½
2½ in. "	3 2	2 2½	3 0½
3 in. " ..	3 6	2 5½	3 7½
3½ in. " ..	3 9½	3 0½	4 2½
4 in. " ..	4 2½	3 4½	4 10½

L.C.C. COATED DRAIN PIPES.—London Prices ex Stock,

	Pipe.	Bends, stock angle.	Branches, stock angles.
	s. d.	s. d.	s. d.
3in.peryd.in 9ft.lengths	3 4½	4 6	7 0
cwt. qr. lbs.			
4 in. " 1 1 20..	5 1	5 9	8 6
5 in. " 1 2 22..	6 6	8 9	13 9
6 in. " 2 0 6 ..	7 6	10 3	18 0

Gaskin for jointing 41/- per cwt.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common Bars	10 0 0	to	10 10 0
Staffordshire Crown Bars— Good merchant quality ..	11 0 0	to	11 10 0
Staffordshire Marked Bars ..	14 10 0	..	15 10 0
Mild Steel Bars	9 10 0	..	10 10 0
Steel Bars, Ferro-Concrete quality, basis price	9 0 0	..	9 10 0
Hoop iron, basis price	11 10 0	..	12 10 0
" Galvanised	28 0 0	..	29 0 0

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*Contd.*)

Per ton in London.

IRON—	£ s. d.	£ s. d.
Soft Steel Sheets, Black—		
Ordinary sizes, to 20 g. ..	11 10 0 ..	12 0 0
" " 24 g.	12 10 0 ..	13 10 0
" " 26 g.	14 10 0 ..	15 10 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	15 0 0 ..	16 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.....	17 10 0 ..	18 10 0
No. 1 quality £4 per ton extra.		
Flat and Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	14 0 0 ..	15 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g. ..	16 10 0 ..	17 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	17 10 0 ..	19 0 0
Sheets, Galvanised, Flat, Best quality—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	15 10 0 ..	17 10 0
Best Soft Steel Sheets, 22 g. and 24 g.....	16 0 0 ..	18 0 0
Best Soft Steel Sheets, 26 g.	17 10 0 ..	19 10 0
Cut Nails, 3 in. to 6 in.	16 10 0 ..	18 0 0
(Under 3 in. usual trade extras.)		

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	0 11
Strong sheet	"	1 0
Thin	"	1 1
Copper nails	"	1 1
Copper wire	"	1 1

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
29/- 45/- 76/- 153/- 246/- 510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
41/6 62/- 92/- 174/- 200/- 588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in. ¾ in. 1 in.
39/- 60/- 116/6 per doz.

CAPS AND SCREWS.

1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
7/6 10/- 14/- 23/- 30/- 42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
7/6 11/- 17/- 29/- 36/- 63/- per doz.

BRASS SLEEVES.

1¼ in. 2 in. 3 in. 3½ in. 4 in.
10/- 12/- 20/- 24/- 31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES S.F.

½ in. ¾ in. 1 in. 1¼ in. 1½ in.
35/- 56/- 98/- 162/- 228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH GLASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.	
8 lbs. P. traps ..	33/-	41/-	56/-	101/-	per doz.
8 lbs. S. traps ..	35/-	45/-	66/-	126/-	per doz.

TIN.—English ingots, 2/9 per lb. SOLDER.—Plumbers' 1/2, Tinmen's 1/4, Blowpipe 1/5 per lb.

PAINTS, &c.

Raw Linseed Oil, in pipes	per gallon	0	3	0
" , " in barrels	"	0	3	2
" " " in drums.....	"	0	3	4
Boiled " " in barrels	"	0	3	5
" " " in drums.....	"	0	3	7
Turpentine, in barrels	"	0	4	0
" in drums (10 galls.)..	"	0	4	2
Genuine Ground English White Lead, per ton		60	0	0
(In not less than 5-cwt. casks.)				
Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.				

GENUINE WHITE LEAD PAINT.

"Father Thames." "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots

per ton delivered	79	0	0
Red Lead, Dry (packages extra) .. per ton	49	0	0
Best Linseed Oil Putty ..... per cwt.	0	13	0
Size. XD quality..... fkn.	0	3	6

LEAD, &c.

Per ton.

(Delivered in London.)	£ s. d.
LEAD.—Sheet, English, 4 lb. and up	36 5 0
Pipe in coils	35 15 0
Soil pipe	41 5 0
Compo pipe	41 15 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra, and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton } £22 15 0

VARNISHES, &c.

Per gallon.

		£ s. d.
Oak Varnish	Outside	0 14 0
Fine Do.	Do.	0 16 0
Fine Copal	Do.	0 18 0
Pale Copal	Do.	1 0 0
Pale Opal Carriage	Do.	1 4 0
Best Do.	Do.	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	Do.	0 18 0
Fine Copal Cabinet	Do.	1 2 0
Fine Copal Flatting	Do.	1 0 0
Hard Drying Oak	Do.	0 18 0
Fine Hard Drying Oak	Do.	0 19 6
Fine Copal Varnish	Do.	1 0 6
Pale Do.	Do.	1 12 0
Best Do.	Do.	1 2 6
Best Japan Gold Size		0 12 6
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent)		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY & SELECTED GLAZING QUALITY

per ft. super.		per ft. super.	
15 oz. O.G.Q.....	2½d.	32 oz. O.G.Q.....	6½d.
15 " S.G.Q	2⅝d.	32 " S.G.Q.	7½d.
21 " O.G.Q.....	3⅛d.	Obscured Sheet, 15 oz.	3½d.
21 " S.G.Q.....	3⅝d.	" 21 "	4½d.
26 " O.G.Q.....	4½d.	Fluted, 15 oz. 6½d., 21 oz. 9d.	
26 " S.G.Q.	5d.	Em'lld 15 oz., 4½d., 21 oz. 5½d.	

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE & FIGURED CATHEDRAL, ETC., IN CUT SIZES. per ft.

Rolled plate, ¼ in.	5½d.
Rough cast double rolled, ⅜ in.	6½d.
Rough cast double rolled, ½ in.	6½d.
Figured rolled, etc., white	6½d.
Figured rolled, etc., tinted	9½d.
Rolled sheet	6d.
White rolled cathedral	6d.
Tinted rolled cathedral	8½d.

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½
Wired Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
"Calorex" Sheet, 21 oz.	2 6
" " 32 oz.	4 0
" Cast, ¼ in. thick	0 10
" " ⅜ in. thick	1 0
½ in. thick	1 2

"VITA" GLASS.

Clearsheet—not exceeding 1 foot	1 0
Do. do. 2 feet	1 3
Do. over 2 feet	1 9
Polished plate not exceeding 1 foot	1 6
Do. do. 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
Do. larger sizes	1 6
Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 6
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide	2 6

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from February 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen	1/7	1/6½	1/6	1/5½	1/5	1/4½
Labourers	1/2½....	1/1¾ .. :	1/1½	1/1	1/0½	1/0½

Aberdeen .....A	Dundee .....A	Hawick ..... A²	Perth .....A		
Airdrie .....A	Dunfermline ..A	Helensburgh....A	Perthshire.....A²		
Alexandria .....A	Dunoon .....A	*Inverness .....B	Peterhead ....A²		
Arbroath .....A	East Lothian ..A	Kilmarnock ....A	Renfrewshire ..A		
Ayrshire .....A	Edinburgh ....A	Kincardineshire A	Rothesay .....A		
Bathgate .....A	Falkirk .....A	Kinross-shire ..A	Roxburghshire A²		
Bo'ness .....A	Forfarshire ....A²	Kirkcaldy ....A	St. Andrews ..A		
Broughty Ferry ..A	Fort William ..B	Lanarkshire ....A	Selkirkshire ....A		
Clackmannanshire A	Galashiels ....A²	Leith .....A	Stirling .....A		
Coatbridge .....A	Glasgow .....A	Midlothian ....A	Stirlingshire, West A		
Dumbartonshire ..A	Greenock .....A	Motherwell ....A	West Lothian ..A		
Dumfries .....A²	Hamilton .....A	Peeblesshire ..A²	Wishaw .....A		
Dumfriesshire ....A					

The information given in this table is copyright. *Slaters and Plumbers have special rate of 1/5½; and Labourers 10d. to 1/-. The rates of wages in various towns in England and Wales are given on page 139.

THE SCOTTISH BUILDER

NEW BUILDINGS

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *Office not later than Wednesday morning.*

ARBROATH.—HOUSES.—An early start is to be made with the T.C.'s housing scheme in Stanley-street. The scheme comprises 42 4-apartment houses. Plans are being prepared by the Burgh Engineer, Gravesend.

BANFF.—HOUSES.—The T.C. has decided to proceed with 48 houses on a field situated between St. Catherine-street and Boyndie-street West. A number of houses will also be erected in Kingswell-lane and on a site at High-shore.

BARRHEAD.—HOUSES.—A scheme for the erection of 102 houses has been approved by the T.C. Fifty-two of the houses will be built as an extension of the town's present Crossmill scheme, and the others as an extension to the Dunterlie scheme. An ambitious lay-out plan for Trees Estate has also been approved. It is proposed to erect 66 new houses on a site which is partly covered by the present main entrance to Fereneze Golf Course. The building of the houses will mean the construction of a new avenue to the course. It is intended to place this as a continuation of Bellfield-street.

DUMBARTONSHIRE. — HOUSING.—Plans are in the hands of Messrs. J. J. Craig and Son, architects and civil engineers, 219, St. Vincent-street, Glasgow, for new housing schemes of 100 houses at Cathkin, 100 houses at Mosshead, Bearsden, 40 houses at Fishercoats, 60 houses at Hillfoot, Bearsden. In connection with these, Messrs. Drysdale, Bridgeton, Glasgow, have received the contract for drainage and sewage works, etc., for Mosshead scheme, and Messrs. Wilson and Co., Glasgow, have received the contract for the same at the Hillfoot scheme, Bearsden.

DUMFRIES. — HOUSES. — Messrs. High Powered Aeronautical Engines, Ltd., who have taken over the Arrol Johnston Works at Heathall, near Dumfries, are to proceed with the building of houses for their workers. The first part of the programme will comprise 50 to 100 houses.

DUNDEE. — BUILDINGS. — Plans and sections of the following proposed new buildings, etc., have been lodged at the office of the City Engineer: Ancrum-drive, bungalows for Moxham and Partners; architects, Gordon and Scrymgeour, 7, Ward-road. Cedar-road and Forthill-road, Broughty Ferry, houses for the Hillside Property Investment Co., Ltd.; architect, W. M. Wilson, 61, Meadowside. 71, Kinghorne-road, alterations for T. R. McDougall; architects, Lowe and Barrie, 104, Commercial-street.

DUNDEE.—FACTORY.—Plans are being prepared for a new factory at Kingsway for Messrs. Valentine and Sons, Ltd.

DUNFERMLINE. — WAREHOUSE. — Plans have been prepared and will come before the Dean of Guild Court for a new warehouse. The site is in the High-street, Cross Wynd, and Queen Anne-street. The architect is Mr. Charles S. M. Beardall, Ilford-avenue, Great Crosby, Liverpool.

EDINBURGH.—BUILDING.—At the Dean of Guild Court the Corporation had plans passed for the erection of 643 dwelling-houses at Peffermill-road and Craigmillar Castle-road. The houses are to be built on both sides of the road leading to the historic ruins of Craigmillar Castle, and on the south side of Peffermill-road. The Court also granted warrant to the County Scout Council of Edinburgh and Leith Boy Scout Association for a Scout hall and offices at Ford-road, Saughtonhall Mains. The following were among the warrants granted by the Court: Donald Campbell, public-house at Restalrig-road, Leith; and

(*Continued on page* 147.)

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	8	0
Add if in clay	„ „	1	0
Add for every additional depth of 6 ft.	„ „	0	6
Planking and strutting to trenches	per foot super	0	3
Do. to sides of excavation, including shoring	„ „	1	0

CONCRETOR.

Portland cement concrete in foundations 1 to 6	per yard cube	24	0
Add if in underpinning in short lengths	„ „	5	0
Add if in floors 6 in. thick	„ „	2	0
Add if in beams	„ „	2	6
Add if aggregate 1 : 2 : 4	„ „	8	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	„ „	1	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	26	0	0
Add if in stocks	„	6	0	0
Add if in Staffordshire blues	„	22	0	0
Add if in Portland cement and sand	„	1	5	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	„ „	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—

Fair external in half brick rings	„ „	0	0	10
Axed in stocks	„ „	0	0	9
Rubbed and gauged jointed in putty camber or segmental	„ „	0	5	9

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	„ „	0	0	11
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	„	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	„ „	9	6
Three-quarter-inch on flats in two thicknesses	„ „	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	„ „	1	0

MASON.

York stone templates fixed	per foot cube	12	9
York stone sills fixed	„ „	22	0
Bath stone and all labour fixed	„ „	10	6
Beer stone and all labour fixed	„ „	15	0
Portland stone fixed	„ „	15	6
Chilmark stone fixed complete	„ „	13	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	70	0
Do. 20 in. × 10 in. Do. Do.	„	71	6
Do. 24 in. × 12 in. Do. Do.	„	73	6

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	3	6
Do. joists	„ „	4	0
Do. roofs, floors and partitions	„ „	4	6
Do. trusses	„ „	6	9

	¾″	1″	1¼″	2″
Deal rough close boarding per sq.	30/–	35/–	43/–	70/–

Flat centering for concrete floor, including struts or hangers	„	50	0	
Do. to beams	per ft. sup.	0	8	
Centre for arches	„	1	6	
Gutter boards and bearers	„	1	0	

FLOORING.

	¾″	1″	1¼″	1½″
Deal-edges shot per sq.	—	38/–	45/–	52/–
Do. tongued and grooved „	—	43/–	50/–	58/–
Do. matchings „	40/–	45/–	—	—
Moulded skirtings, including backings and grounds per ft. sup.	1/4	1/7	1/9	2/3

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	9
Two Do. Do. Do.	„ „	2	0
Add for fitting and fixing	„ „	0	2
Deal cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double-hung, double hung with pulleys, lines and weights, average size		3	3

DOORS.

	1¼″	1½″	2″
Two-panel square framed per ft. sup.	2/1	2/3	2/5
Four-panel Do. „	2/4	2/6	2/9
Two-panel moulded both sides „	2/6	2/9	2/11
Four-panel Do. Do. „	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	12	0

	1″	1¼″	1½″
Plain deal jamb linings framed per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers „	1/2	1/4	1/7
Add if cross-tongued „	2d.	2d.	2d.

STAIRCASES.

	1″	1¼″	1½″	2″	2½″
Deal treads and risers in and including rough brackets	2/–	2/3	2/8	—	—
Deal strings wrot on both sides and framed	1/8	2/–	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. x 1½ in.	per ft. run	0	9
Mahogany handrail, average 3 in. x 3 in.	„ „	5	6
Add if ramped	„ „	11	0
Add if wreathed	„ „	22	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/–
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/–
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	0
Plain compound girders	„	18	0
Do. stanchions	„	20	9
In roofwork	„	26	6

RAIN-WATER GOODS.

	3″	4″	5″	6″
Half-round plain rebated joints ft. run	1/–	1/1	1/3	1/6
Ogee Do. do. „	1/2	1/3	1/9	2/3
Rain-water pipes with ears „	1/3	1/10	—	—
Extra for shoes and bends each	2/9	3/11	—	—
Do. stopped ends „	1/1	1/4	1/9	2/6
Do. nozzles for inlets „	2/2	2/7	3/7	4/–

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	46	0
Do. do. flats	„	45	0
Extra labour and solder in coated cesspools	each	6	0
Welt joint	per ft. run	0	4
Soldered seam	„ „	1	6
Copper nailing	„ „	0	3

	½″	¾″	1″	1½″	2″	4″
Drawn lead waste per ft. run	10½	1/2	1/9	2/5	3/–	—
Do. service „	1/3	1/8	2/2	3/2	—	—
Do. soil „	—	—	—	—	—	6/–
Bends in lead pipe each	—	—	—	—	2/3	5/6
Soldered stop ends „	0/7	0/11	1/3	2/–	2/6	—
Red lead joints „	0/9	0/10	1/1	1/7	1/10	3/6
Wiped soldered joints „	2/–	2/6	2/9	3/5	4/3	6/–
Lead traps and cleaning screws „	—	—	—	10/–	13/–	—
Bib cocks and joints „	6/–	9/–	13/–	—	—	—
Stop cocks and joints „	10/6	12/6	17/6	50/–	—	—

PLASTERER.

				s.	d.
Render, float and set in	lime and hair	per yard sup.		2	0
Do. Do.	Sirapite	„	„	2	3
Do. do.	Keen's	„	„	3	0
Add saw lathing		„	„	1	4
Add metal lathing		„	„	2	4
(Not including hangers or runners, etc., for suspended ceilings.)					
Portland cement screed		„	„	1	7
Do. plain face		„	„	3	3
Mouldings in plaster		per 1 girth		0	1½
One-and-a-half granolithic pavings		per yard sup.		4	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	6½
26-oz. Do.	„ „	0	7½
Obscured sheet	„ „	0	8
⅛-in. rolled plate	„ „	0	9
¼-in. rough rolled or cast plate	„ „	0	10
¼-in. wired cast plate	„ „	1	1

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	7½
Knotting and priming	„ „	0	7
Plain painting, 1 coat	„ „	0	9
Do. 2 coats	„ „	1	2
Do. 3 coats	„ „	1	9
Do. 4 coats	„ „	2	4
Graining	„ „	2	3
Varnishing twice	„ „	1	9
Sizing	„ „	0	3
Flatting	„ „	0	7
Enamel	„ „	1	1
Wax polishing	per foot sup.	0	6
French polishing	„ „	1	2
Preparing for and hanging paper	per piece 2/– to 4/–		

*These prices apply *to new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Act, and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

NEW BUILDINGS IN SCOTLAND

(*Continued from page* 145.)

Muirhouse Building Co. (Ltd.), three shops and two houses at Main-street, Davidson's Mains.

EDINBURGH.—FLATS.—Plans for a block of service flats in South Learmonth-gardens were approved by the Dean of Guild Court. The site is close to Queensferry-road. The new block will cost £60,000 to erect, and is being constructed for the Dean Property Investment Co. The architect is Mr. Stewart Kaye, A.R.I.B.A.

GIRVAN. — HOUSES. — The T.C. have decided to erect 50 houses on the Penkill-road site.

GLASGOW.—HOUSES.—The layout plans by the Corporation for 136 houses for the aged poor, at Crookston, has been approved in principle by the Department of Health for Scotland.

GLASGOW.—HOUSING.—Land which will provide sites for over 40,000 houses has been provisionally obtained by the Corporation on the outskirts of the city. To meet the needs of overcrowding at Govan, the Corporation have decided to buy 370 acres of ground at Hillington, while the Corporation are also to obtain land in the Provanmill area.—The directors of the Scottish Co-operative Wholesale Society have selected a site at Shieldhall for a factory. The estimated cost of the building is £60,000.—The building of a new home for nurses of the Royal Infirmary, Glasgow, at £100,000, is contemplated. As a preliminary, the infirmary directors have asked the Corporation for ground owned by the Housing Department and situated to the rear of Provand's Lordship. The Housing Committee have recommended that the ground should be made available.

HAMILTON.—HOUSING.—The Dean of Guild Court has passed plans for six houses at Almada-street, on a site opposite the County Sheriff Court. The plans provide for three houses of three apartments, one of four apartments, and two of five apartments. The building will be of three stories, and will cost £3,000.

JOHNSTONE. — POOL. — The T.C. has decided to consider a scheme for a swimming pool on similar lines to that at Cumnock.

KIRKCONNEL.—HOUSING.—The Dumfriesshire C.C. are completing a scheme of 58 houses at Kelloholm, to rehouse a similar number of householders in the village of Crawick Mill, Sanquhar.

NEWBURGH.—HOUSING.—Mr. Edwin L. Williamson, 154, Union-street, Aberdeen, is architect for a small housing scheme for the Aberdeenshire C.C.

TAIN.—HOUSING.—A site for the new housing scheme for the T.C. has been acquired at Burgage Farm. It is proposed to erect about 24 3-roomed and 4-roomed houses. —A proposal to augment the burgh's water supply by constructing a reservoir is being considered by the Council.

NEW PUBLIC WORKS

CHELMSFORD.—The Essex C.C. has recommended the acceptance of the tender of Messrs. Staverton, Builders, Ltd., of Totnes, at £222,993, for the erection of a sanatorium for 300 male patients at Broomfield Court.

GREAT BRITAIN.—Among the contracts advertised by local authorities in this issue as being open to tender are: Rainhill.—Extension at County Mental Hospital; Baildon.—104 houses at Sandals Estate; Plymouth.—Flats, dwellings and slipper baths.

LONDON.—Additional work is to be put in hand in connection with the Port of London Authority's £12,000,000 port improvement programme. Contracts have been placed with Messrs. John Mowlem and Co., Ltd., 91, Ebury Bridge-road, S.W.1, for the construction of a new quay on the north side of the Royal Victoria Dock, and with the Tilbury Contracting and Dredging Co., Ltd., 63, Petty France, S.W.1, for the dredging and reclamation of land. The plans for the scheme have been prepared by the Authority's Chief Engineer.

NORFOLK.—The Education Committee have passed a provisional scheme for the reorganisation of elementary schools in the county, to include the erection of 23 new schools and enlargements to 37 existing schools, involving an expenditure of £500,000. Of these proposals, four new schools are at present in course of erection, and plans are being prepared by the County Education Architect, Mr. F. G. Limmer, L.R.I.B.A., County Education Offices, Stracey-road, Norwich, for the other proposed schemes.

NORTHAMPTON.—The Borough Engineer of the T.C. has prepared plans and tenders are to be invited for extensions and alterations to the garage at the Transport Depot. The scheme is estimated to cost £24,606, and application is to be made to the Ministry of Health to borrow the amount.

NORTHERN IRELAND.—Work to be undertaken early in the new year will be a new County Down by-pass from Belfast to cost £50,000, a town-planning scheme for the environs of the city to cost £25,000, four new schools in various parts of the province for the Northern Ireland Ministry of Education, and a scheme for 330 labourers' cottages in the Coleraine district for Coleraine R.D.C., to cost £110,800.

SALFORD.—Salford Finance Committee has approved a proposal of the Parks Sub-Committee to spend £4,700 on the erection of a new café in Buile Hill Park. It was stated that it is intended for the café to be built on Continental lines.

NEW COMPANIES

BURWOOD, LTD. (321,422). Registered December 2. Builders and contractors, etc. Nominal capital, £1,000. W. L. Woodcock, 18, Cromwell-road, Scarborough.

F. J. PRITCHETT & SONS, LTD. (321,351). Registered December 1. The Brick Works, Rookley, Isle of Wight. Brick and tile manufacturers. Nominal capital, £17,000.

LAPPER & HOOPER, LTD. (321,131). Registered November 26. Beaumont, Parkfield-road, Wolverhampton. Builders, road contractors, etc. Nominal capital, £2,000.

JAMES A. LOVELL, LTD. (321,311). Registered November 30. Builders, contractors, etc. Nominal capital, £3,000. J. A. Lovell, "Pineholm," Blenheim-gardens, Sanderstead.

H. SHINN & SON, LTD. (321,077). Registered November 25. 2, Clifton-crescent, Birkenhead. Builders, etc. Nominal capital, £4,000.

FRAME (BUILDERS), LTD. (321,238). Registered November 28. Builders, etc. Nominal capital, £2,000. A. E Booth, 92, Worple-road, Wimbledon, S.W.19.

WALE (EXCAVATIONS), LTD. (321,212). Registered November 27. Excavators, etc. Nominal capital, £100. J. C. Wale, 3, North-gardens, Brighton.

PARKINSON'S BRICKWORKS, LTD. (321,189). Registered November 27. Brick and tile manufacturers and merchants, etc. Nominal capital, £5,000. A. T. Parkinson, The Cottage, Poulton Old-road, Blackpool.

TROLLOPE & SONS (DECORATORS), LTD. (321,249). Registered November 28. Decorators and furnishers comprised in an agreement with Trollope & Colls, Ltd. Nominal capital, £50,000. C. F. Goodson, 41, Howitt-road, Belsize Park, N.W.3.

PARTNERS (BUILDERS), LTD. (321,086). Registered November 25. 65, Conduit-street, Regent-street, W.1. Builders and contractors, etc. Nominal capital, £1,000.

F. W. PRICE, LTD. (321,642). Registered December 8. 1a, Warwick-place, Uxbridge. Sanitary and heating engineers, etc. Nominal capital, £1,500.

JAMES N. CURBISHLEY, LTD. (321,615). Registered December 7. Lancashire Hill, Stockport, Ches. Builders, contractors, etc. Nominal capital, £1,500.

KITHEROE PARK ESTATES, LTD. (321,575). Registered December 5. Builders and contractors, etc. Nominal capital, £1,000. W. E. Smith, 8, Longwyth-road, Worsthorne with Hurstwood, near Burnley.

TRADE NEWS

Asbestos-Cement Rainwater Goods.

Turners Asbestos Cement Company issue from Trafford Park, Manchester, a new and attractive catalogue of "Everite" asbestos-cement rainwater goods, soil pipes and ventilators. These are described, illustrated, and, in some cases, shown in position on buildings. Asbestos-cement has certain very useful attributes, not least the absence of maintenance, and, in the case of pipes, ease of cutting. There is a section on ventilators, which is of particular interest.

Engineering Company's Centenary Year.

On the eve of the opening of their centenary year, Messrs. Blackstone and Co., Ltd., of Stamford, Lincs, have received a message of congratulation and good wishes from the Mayor of Stamford, which contains the following remarks: "Stamford is proud to be the home of one of the oldest-established engineering firms in the country, and it is more than proud of the way in which its good name is being carried to the ends of the earth by means of your products."

A Shopfitters' Dinner.

Messrs. E. Pollard and Co., Ltd., together with associated companies, held their annual Travellers' and Foremen's Dinner at the Holborn Restaurant, on December 29. Over four hundred sat down and enjoyed a very pleasant evening. The chairman, Mr. Edward Pollard, remarked on the continued growth of the firm, the return of better trade, and looked forward to continued prosperity during 1937. He also referred to the appointment of Mr. Harold E. Pollard as joint managing director, and of Mr. B. L. Marley, who has been appointed a director of the company.

Lead Industries' Propaganda.

The Lead Industries Development Council send us a specimen copy of their 1937 decorators' publicity programme, issued by the authority of their White Lead Committee. Applications for copies are invited from all decorators and builders who have not received one direct by post. Particular attention is drawn to the offer proposed to be made to the trade in the coming year of a special decorators' calendar for 1938. The number of decorators who have ordered copies of the 1937 calendar was very large, but, as many delayed their applications, we learn that some, unfortunately, had to go without. Applications should be made to 38, King William-street, E.C.4.

Welding Shopfitters' Metals.

The use of metals, both for shopfronts and window cases, is to-day a normal practice. Like many other trades who to-day are exploiting the resources of the metal founders, shopfitters have discovered oxy-acetylene welding as a means for jointing. The metals which they favour, however, must be known to some extent to secure the best working results. The smooth streamline imperceptible joint obtainable by means of the oxy-acetylene process presents no difficulty where shopfitting metals are concerned, providing the characteristics of the metals are studied and the technique of welding adapted thereto. To assist all those who wish to utilise this quick, strong, economic and almost undetectable form of joint, notes upon the welding of metals most commonly employed in the trade have been prepared by the British Oxygen Co., Ltd., of Thames House, Millbank, S.W.1, who, in addition to supplying copies to shopfitters and others who are likely to find them of service, will be glad to give further assistance where unusual or difficult work has to be done.

The Ideal Home Exhibition.

This exhibition will be held from March 30 to April 24, at Olympia, London, W.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government Departments.*

Aberdeen.—Supply of railings to a housing scheme, for the T.C. :—

Woodside—
‡A. & J. Main & Co., Glasgow £1,944
Hayton-road—
‡W. Bain & Co., Ltd., Coatbridge ... 1,268
Tanfield (second development)—
‡W. Prentice, Larkhall 601

Aberdeen.—New intermediate school at Powis, for the E.C. :—

Excavation—
*J. McAdam & Sons, Ltd., Aberdeen... £7,074
Mason—
*Adam Birnie, Aberdeen 13,546
Reinforced concrete—
*W. J. Anderson, Ltd., Aberdeen 28,120

¶Alexandria (Dumbarton).—Steelwork, for H.M. Civil Engineer-in-Chief's Department, Admiralty :—
W. Bain & Co., Ltd., Lochrin Ironworks, Coatbridge.

Ashington.—Six new police houses, garages, etc., for the Northumberland C.C. Mr. W. W. Tasker County Architect :—
‡Coxon & Doherty, Ltd., Blyth £4,695

Bath.—Works, for the City Council :—

Repairs and decorations at 2, Gay-street—
*Flower & Hayes, Ltd. £135 12
Pergola in Memorial Garden, Henrietta Park—
*R. A. Lister & Co., Ltd., Gloucester £140 0

Beeston and Stapleford.—Alterations and additions to the welfare centre in Dovecote-lane, Beeston, for the U.D.C. Surveyor :—
*F. Martin, Stapleford, Nottingham £377 14 8

Biggar.—Library and janitor's house at the Old Police Buildings, for the C.C. Mr. John Stewart, architect, Albert-street, Motherwell :—
Digger, brick and mason — *W. McLehose, Lanark.

Bingley.—Five shops and houses on the Gilstead estate, for the U.D.C. Mr. E. O. Robinson, A.R.I.B.A., architect :—
Mason, joiner and plasterer—*W. Smith, Gilstead.
Plumber—*J. W. Cragg, Alice-street, Keighley.
Electrician—*G. Binns, Shipley.
Painter—*F. Lambert, Cullingworth.

Birmingham.—Warehouse in Pritchett-street, Aston. Mr. H. Arnold, architect, 321, High-street, West Bromwich :—
*G. Linnecor & Son, New Town-row, Birmingham.

Birmingham.—Premises in Heneage-street, Ashted, for Messrs. Stanley Croft, Ltd. :—
*E. L. Turner, 204, Vincent-street, Birmingham.

Birmingham.—Stores in Avon-street, Sparkhill, for Messrs. Fairways Estates :—
*Rutty & Hughes, 7, Avon-street, Sparkhill, Birmingham.

Birmingham.—64 houses in Sandringham-road, Perry Barr :—
*B. T. Felton & Sons, Chester-road, Erdington, Birmingham.

Birmingham.—Factory in Ronald-road and Cherrywood-road, Saltley, for the Diamond Screw and Cotter Co., Ltd. :—
*Sinfield & Sons, Ltd., 77, Alum Rock-road. Birmingham.

Blackpool.—Factory in Chiswick-grove, Preston New-road, for Messrs. Knowlsons, Ltd., St. Anne's-road, South Shore. Mr. H. Best, F.R.I.B.A., architect, 20, Clifton-street—
*H. H. Vickers & Son, Blackpool.

Blaydon-on-Tyne.—Vestry and alterations to caretaker's house at the Litchfield-lane Methodist Church :—
*John W. Sisterson, Winlaton, Blaydon.

Boston.—Erection of the high school for girls, in Spilsby-road. Mr. T. F. Trower, L.R.I.B.A., architect, Elsom House, Broad-street, Spalding :—

John Thompson & Sons, Ltd., Peterborough	£39,082	0	0
J. Cracknell, Ltd., Peterborough	38,958	0	0
J. Youngs & Son, Ltd., Norwich	37,587	0	0
Thomas Roper & Sons, Ltd., Sheffield	37,545	0	0
Bernard Pumfrey, Ltd., Gainsborough	37,360	0	0
P. P. Taylor (Doncaster), Ltd., Doncaster	36,541	18	2
*Fred Peck & Son, Hartley-street, Boston	36,397	12	6

Bournemouth.—Convenience for ladies in the pleasure gardens at The Crescent, Boscombe, for the T.C. :—
*F. Hoare & Sons £948

Bournemouth.—Conveniences in Redhill-drive, for the T.C. :—
*S. J. Hawkins £1,364 10

Bridlington.—Concert hall in Victoria Terrace-gardens, for the T.C. Mr. P. Maurice Newton, A.R.I.B.A., Borough Architect. Quantities by Messrs. John Watson & Carter, Hull :—
*Jaques & Greeves, Ltd., Springwell-lane, Doncaster £26,995

Carlisle.—For (*a*) alterations to the main building and (*b*) modernisation of the laundry at the Fuse Hill Institution, for the P.A.C. Mr. Percy Dalton, A.R.I.B.A., City Surveyor, 18, Fisher-street :—
(*a*) *N. Harrison, Carlisle £2,184 11 2
(*b*) *Braithwaite & Sons (Engineers), Ltd., Kendal 1,254 10 0

Carrickmacross.—Four cottages at Annahieve, for the Monaghan Board of Health :—
*Carolan Bros., Drumberry £920 12 4

Chelmsford.—Houses, for the R.D.C. :—

84 at Gt. Baddow—
*F. A. Fordham & Sons, Ltd., Laindon £31,369
18 at Boreham—
*W. & A. Pudney, Ingatestone 5,198

Chelmsford.—Works, for the T.C. :—

Mess-room at the Gas Works—			
S. T. Claydon, Chelmsford	£1,221	0	
H. T. Clark, Romford	1,133	0	
F. J. French, Chelmsford	1,019	9	
H. Potter (William Sharp), Ltd., Chelmsford	997	0	
*H. R. Barber, Writtle	953	15	
Erection of Moulsham junior and infants' schools—			
‡G. J. Hawkes & Sons, Chelmsford	£37,468		
Senior school at Moulsham—			
†F. French, Chelmsford	44,445		

Conisborough.—For erection of 50 houses under slum clearance scheme, for the R.D.C. Mr. H. Thirlwall, surveyor :—
*Direct Labour.

Cookham.—18 houses at Cookham Rise, for the R.D.C. :—
*W. Creed & Sons, Maidenhead ... £6,745 9 3

Danbury.—New Congregational church. Mr. Frederick Lawrence, F.R.I.B.A., architect :—
*Henry Potter (William Sharp), Ltd.

Darlington.—Rebuilding the Theatre Royal, for Mr. T. H. Pailor, Hippodrome, West Hartlepool. Messrs. Percy L. Browne & Sons, architects, Pearl-buildings, Northumberland-street, Newcastle-on-Tyne :—
*W. Pearson & Sons, Stranton, West Hartlepool.
(Cost, £50,000.)

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SECURE CONTRACTS WITH
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THE STEEL SCAFFOLDING CO., LTD.
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Darlington.—Alterations to Council schools, for the E.C. Mr. E. Minors, Borough Engineer :—
Barnard-street school—*H. W. Andrews, Hurworth-on-Tees.
Alderman Leach school—*R. T. Raiseborough, Chatsworth-terrace, Darlington.

Darnall (Sheffield).—Clearing of site, and the erection of new banking premises at the junction of Staniforth-road and Ronald-road, for the Yorkshire Penny Bank, Ltd., Infirmary-street, Leeds :—
*Wm. Nicholson & Son (Leeds), Ltd.

Darwen.—Additions to Avondale-road senior girls' school, for the E.C. Mr. E. Marsden, Borough Surveyor :—
Builders—†W. Knowles, Ltd.
Plumbers—†J. Duckworth & Co.
(Both of Darwen.) (Cost £10,000.)

Dewsbury.—Electric wiring of the extensions to Wheelwright Boys' grammar school, for the E.C. :—
*Beaumont & Blackburn, Dewsbury £203

Dukinfield.—For erection of 70 houses, Lakes-road South, for the T.C. Mr. E. N. Stannion, Borough Surveyor, Town Hall :—
*Ashton & Pemberton, Dukinfield.

East Grinstead.—48 houses on the Sackville estate, Sackville-lane, for the U.D.C. Mr. H. C. Golding, engineer and surveyor :—
*F. J. Chuter, Forest-row £15,600

Essex.—Works for the C.C. :—

New bridge and viaducts in connection with the proposal to by-pass the existing level-crossing at Alresford on the Colchester-St. Osyth-road—
‡Ewing Salmond, Ltd., Croydon £14,453 8 3
Supplying sanitary fittings for the new buildings at the Black Notley Sanatorium—
*Shanks & Co., of London £946 9 7
Central heating and domestic hot water services in the new extensions to the nurses' home at the Oldchurch Hospital—
Coleman & Hosking £1,703 0 0
‡C. H. Lindsey & Son, Ltd. 1,519 10 0
Sundry repairs to the roofing of the temporary offices at Old Court, Springfield—
‡Henry Potter (Wm. Sharp), Ltd. £106 16 6
Two classrooms at the Brentwood High School for Girls—
‡F. E. Smith, Grays £1,605
Combined treatment centre, at Vange—
‡A. E. Wright, Leyton £3,237
Rebuilding of the Cressing Council school—
‡Jepp & Sons, Bocking £1,619 10
Additional laboratory accommodation at the Colchester Royal Grammar School—
‡Hutton & Son, Birch £2,038

Fraserburgh.—9 houses in Hanover-street, for the T.C. Mr. W. F. Hamilton, Burgh Surveyor. Quantities by the Burgh Surveyor :—
Mason—*H. D. Scott, Strichen.
Joiner—*W. Bruce, St. Combs.
Plumber—*J. McNab, Fraserburgh.
Plaster—*A. Campbell, Fraserburgh.
Slater—*A. Thomson & Son, Fraserburgh.
Painter—*Ferguson & Milne, Ltd., Peterhead.

Gateshead.—Rebuilding the Star Hotel, for Messrs. R. Denchar & Co., Newcastle. Messrs. T. A. Page, Son & Bradbury, architects, 67, King-street, South Shields :—
*J. Jackson & Son, Corporation-street, Newcastle.

Godstone.—18 houses at Dormans Land, for the R.D.C. :—
*W. J. Jerram, East Ham £6,270

Havant and Waterloo.—12 houses in Elm Park-road, for the U.D.C. :—
*D. W. G. Marsh, Emsworth £4,416

Hebburn-on-Tyne.—Extensions to offices, for Messrs. White's Marine Engineering Co., Ltd. Mr. Howard Hill, architect, 10, Winchester-street, South Shields :—
*J. Christie, Nile-street, South Shields.

Horden.—School, for the Durham C.C. Mr. F. Willey, architect, 34, Old Elvet, Durham :—
*D. Glen, Back Queen's-road, Jarrow.

Irthlingborough.—Six houses on the Allen-road site, for the U.D.C. :—
*A. Hull, Desborough £2,432
(In lieu of tender withdrawn.)

Kettering.—Factory on a site off Avondale-road and Bath-road, for Messrs. Greenlees & Sons (Easiephit Footwear), Ltd., East Park-road, Leicester. Messrs. Symington, Prince & Pike, F. and L.R.I.B.A., 1, West-street, Museum-square, Leicester :—
*T. Hickman & Sons, Market Harborough.

King's Lynn.—Rebuilding of 60, High-street and 146, Norfolk-street, for Messrs. Marks & Spencers, Ltd., Michael House, Baker-street, W.1. Messrs. W. A. Lewis & Partners, 130, Regent-street, W.1 :—
*Bovis, Ltd., 82, South Audley-street, W.1.

Kingston-on-Thames.—Works for the new baths, for the T.C. :—

Terrazzo, mosaic, wall and floor tiling, etc.—
*Art Pavements & Decorations, Ltd. £4,424 19 8
*John Stubbs & Sons 1,909 6 8
Sanitary fittings—
*Leeds Fireclay Co., Ltd. 1,892 2 10

Lancaster.—Public swimming baths, Kingsway, for the T.C. Mr. Frederick Hill, Borough Surveyor :—

Builders—
*A. O. Thoms, Lancaster £36,778

Reinforced concrete—
*W Moss & Sons, Ltd., Liverpool 8,755

Lancaster.—Conversion of St. Peter's hall into Public Health Offices, for the T.C. Mr. F. Hill, M.I.C.E., Borough Surveyor :—

*Thompson & Jackson, Ltd., Lancaster £615 7 6

Leeds.—Omnibus station at Vicar-lane, for the West Yorkshire Road Car Co., Ltd. Mr. H. J. Starkey, architect, 2, Dean Farrar-street, S.W.1 :—

*Wm. Nicholson & Son (Leeds), Ltd.

Leeds.—Construction of "The Concourse" at the Wellington Station, for the L.M. and S. Railway Co., Ltd. :—

*Wm. Nicholson & Son (Leeds), Ltd.

Liverpool.—Works, for the T.C. :—

Alterations to the Farm Bailiff's Cottage, Carr Hall Farm, Lathom, near Burscough—
*R. Myles, Ltd., 30-32, Bridport-street, Liverpool, 3 ..... £521

New entrance block at the Tramways Athletic ground, Finch-lane, Knotty Ash—
*R. Wearing & Sons, Ltd., West Derby, Liverpool, 12 ..... £4,153

Electric sub-station at Hall-lane, Liverpool-road, Maghull—
*Bragg & Collins, 11-13, Fazakerley-road, Liverpool, 9 ..... £710

8 B.P.-type houses, 10 B.D.-type houses, 34 B.A. 950-type houses and 131 B.950-type houses, on the Longview Farm estate (Portion No. 5)—
*Tysons (Contractors), Ltd. £77,379

40 flats and 1 shop on the Johnson-street site—
*C. J. Doyle £19,500

Laying new oak flooring in two rooms in the Walker Art Gallery—
*Tysons (Contractors), Ltd., Dryden-street, Liverpool, 5 ..... £504

Childwall Valley High School for Girls—
*Tysons (Contractors), Ltd. £62,498

Broadgreen-road Council school: proposed junior boys' department, Cunningham-road—
*J. Rimmer & Son, Ltd. £14,300

Gilmour Council school, Duncombe-road: proposed new infants' department, Southbank-road—
*R. Wearing & Sons £12,097

Installation of electric lighting at the following premises :—
Pall Mall workshops and offices—
*Winstanley & Lambert, Ltd., 45-7, Edge-lane, Liverpool £203

Green-lane pumping station and two cottages—
*B. L. Biggs, 131, Duke-street, Liverpool £152 8 2

Dudlow-lane pumping station, and six cottages in Menlove-gardens—
*Parry's, 32, Russell-street, Liverpool ... £166

Retaining wall at the Clarence Dock power station—
*Joshua Henshaw & Sons, Chatham-street, Liverpool £1,287 11 1

Café and public conveniences at Sefton-park—
*Knight & Lord, 2a, Windsor-road, Liverpool, 13 ..... £2,495

Laying of a line of 42 in. steel pipes and other ancillary works extending from Beeston to Cotebrook, Chester—
*Lehane, Mackenzie & Shand, Ltd., 37, Iron Gate, Derby ... £25,946 9 10

Extensions at Clarence Dock power station—
Steelwork—
*F. Morton & Co., Ltd., Garston Liverpool £11,240 6 9
Civil Engineering Works—
*Wm. Moss & Sons, Ltd., Liverpool 7,814 17 9
Downcast Chamber No. 4—
*J. Henshaw & Sons, Liverpool 9,772 3 0

Lochgilphead.—16 houses, for the T.C. Mr. C. C. MacArthur, Burgh Architect, Clydesdale Bank-buildings, Shore-road :—

Excavation, brick and mason—*J. Carmichael.
Plumber work and sanitary fixtures—*J. Arnott, Tarbert.
Joinery, carpentry and ironmongery — *J. Smith.
Plaster work and lathing—*A. Dunn, Uddingston.
Slater work and lathing, etc.—*A. Leckie.
Painter—*T. McFarlane, Bellshill.
(Remainder of Lochgilphead.)

¶London.—Tenders accepted by H.M.O.W. for the week ended December 31 :—

H.M. Stationery Office — extension of composing room, etc.—A. Roberts & Co., Ltd., 74, Earl's Court-road, W.8.
West Hartlepool Employment Exchange—erection—H. F. Mole, The Vineries, Chester-le-Street.
Axminster carpet—J. Templeton & Co. (Services), Ltd., 34/38, Little Britain, E.C.1.
H.M. Factory, Chorley—Sinking pilot artesian well—J. Thom, Ltd., Canal Works, Patricroft, nr. Manchester.
Mill Hill Branch Post Office—alterations—Soole & Sons, Dunstable Works, Richmond, Surrey.
Barton-on-Humber Telephone Exchange—alterations and additions—Stamp & Son, Brigg-road, Barton-on-Humber, Lincs.
Clapham Sub-District Office—heating and hot-water services—Mumford, Bailey & Preston, Ltd., Newcastle-house, Clerkenwell-close, E.C.1.

Lutterworth.—Two houses at Dunton Bassett and six houses at Claybrooke, for the R.D.C. Mr. E. Berridge, surveyor :—

*E. Holmes & Co., Leicester £1,990

Lymm.—Additions to the Grammar School, for the Cheshire E.C. and the Board of Governors. Mr. F. Anstead Browne, F.R.I.B.A., County Architect, The Castle, Chester :—

Contractors—*E. E. Coleman, Ltd., Sale.
Steelwork—*Whitnall & Gregory, Ltd., Ellesmere Port.
Slating—*F. Brown & Sons, Ltd., Manchester.
Plastering—*J. Gibbons & Son, Ltd., Manchester.

(Estimated cost, £8,000.)

Maidenhead.—8 houses in Harrow-close, for the T.C. :—

Francis Bros.	£3,677
Creed & Co.	3,394
Halfacre & Young	3,256
Avery & Son	2,926
J. R. Allnott	2,784
*Cripps & Green (including erection of wooden sheds)	2,696

Manchester.—Works, for the T.C. :—

(*a*) Slating work; (*b*) painting work at new police headquarters, Jackson's-row, South-street and Bootle-street; (*c*) covering flat roof at Mill-street police station—
(*a*) *F. Brown & Son, Walkden.
(*b*) *G. Gerrard & Sons, Ltd., Manchester.
(*c*) *D. Anderson & Sons, Ltd., Stretford.
Structural steelwork for the Rochdale-road garage—
*E. Wood & Co., Ltd., Manchester.

Manchester.—Three lock-up shops, offices and showroom in Cheetham Hill-road and Queen's-road, Cheetham, for Mr. H. Brotherton, Whitehall Grange-road, Brooklands. Messrs. Matley, Brotherton & Mills, architects, 39, Oxford-road :—

*W. J. Branch, Manchester.

Manchester.—First portion of hemming department to works in Bower-street, Newton Heath, for Messrs. Tootal, Broadhurst, Lee & Co., Ltd., Oxford-street. Mr. J. H. Sellers, F.R.I.B.A., architect, 78, King-street :—

*A. Milne, Manchester.

Manchester.—Extensions to the "Ye Olde Cock Inn," Wilmslow-road, Didsbury, for Messrs. Chester's Brewery Co., Ltd., Ardwick. Mr. Fred Riley, L.R.I.B.A., architect, 4, Cannon-street. Quantities by Mr. T. Sumner Smith, F.S.I., Clifton Lodge, Victoria Park :—

*T. Campion & Sons, Manchester.

Manchester.—Boiler-house to brewery in Monsall-road, Newton Heath, for Messrs. Wilson's Brewery, Ltd., Monsall-road, Newton Heath. Plans prepared in Architect's Department, Brewery Offices :—

*T. Warrington, Hyde.

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Mansfield.—Redecoration of (*a*) Rosemary, (*b*) Bull Farm, (*c*) Carter-lane schools, for the E.C. Mr. Waude Thompson, Borough Surveyor :—

(*a*) *Frank Taylor, Nottingham £392 0
(*b*) *C. Scott & Son, Mansfield 331 18
(*c*) *T. W. Mutch, Sutton-in-Ashfield ... 178 12

Newcastle-on-Tyne.—Showrooms in Shields-road, for Messrs. George Wilkes & Sons. Mr. J. N. Fatkin, architect, 17, Bigg-market :—

*W. Willson, Ltd., Grey-street, Newcastle-on-Tyne.

Newcastle-on-Tyne.—Repair shops, for Messrs. Armstrong-Siddeley Motors, Ltd. Messrs. Marshall & Tweedy, architects, 129, Pilgrim-street :—

*E. Thompson, 12, Grey-street, Newcastle-on-Tyne.

Newcastle (Staffs).—For alterations to premises, 28, High-street, for Messrs. W. & J. Wallace, Ltd., Eastgate-street, Stafford. Messrs. Hollins & Jones, F. and L.R.I.B.A., architects, Lloyds Bank-chambers :—

*Joseph Jones (Newcastle), Ltd., Newcastle.

Oban.—Raising the banks of the reservoir and other works for the augmentation of water supply, for the T.C. :—

*David Rae & Son, Ltd., Edinburgh £13,651

Oundle and Thrapston.—Conversion of infirmary at institution, Thrapston, into Council offices, for the R.D.C. Quantities by Mr. F. J. Short, Sanitary Surveyor :—

Various works—
*H. G. James, Stanwick £39 15 0
*G. S. Green, Thrapston 40 13 8
*Grensells, Ltd., Kettering 38 13 0

Pershore.—Houses, for the R.D.C. :—

10, at Norton Juxta Kempsey—
‡Perks Bros., Eckington £3,365 0 0
Eight, at Whittington—
‡Perks Bros., Eckington 2,848 19 6
Six, at Throckmorton—
‡Perks Bros., Eckington 1,998 18 6

Pontefract.—16 bungalow houses in Horsefair, for the T.C. Messrs. Tennant & Smith, architects, Ropergate :—

Builder—
*Brown & Lodge, Pontefract £1,943 10 1
Joiner—
*Gibson Bros., Upton, Pontefract 789 9 1
Tiler—
*Stewart Bros. & Sons, Pontefract 297 0 0
Plumber—
*C. Smurthwaite, Pontefract 482 0 0
Plasterer—
*J. Shaw, Pontefract 145 11 6
Painter—
*A. Gross & Son, Knottingley 104 10 4

Salen Sunart.—Police station and other offices. Mr. Robert Cameron, architect, Dunoon :—

Excavation, brick and mason—*J. MacLachlan, Oban.
Joinery, carpentry and ironmongery—*Malcolm MacLean & Co., Tobermory.
Painter work and glazing, etc. — *Duncan McTavish, Lochgilphead.
Plumber work and sanitary fixtures, etc.—*Anderson & Nisbet, Oban.
Plaster work and lathing, etc.—*P. & J. Jamieson, Oban.
Slater work and roughcasting, etc.—*H. Sinclair & Sons, Tobermory.
Electrical fittings and installation, etc.—*Small & McDonald, Glasgow.

Salford.—Works, for the T.C. :—

Reconstruction and widening of the Canal bridge and approaches in East Ordsall-lane—
†W. Gornall & Son, Ltd., Salford ... £3,062 18
(*a*) Erection of a café at Buile Hill-park, Pendleton; (*b*) supervisor's house and office at Langworthy estates, Eccles New-road, Salford—
(*a*) *F. Butterworth, Ltd., Manchester, 9. £4,470
(*b*) *W. Gornall & Son, Ltd., Salford ... 960

Salford.—589 houses, 14 shops in Littleton-road, Moor-lane, Oaklands-road, Broughton :—

*A. Cassel & Son, Broughton.

Scarborough.—Erection of the new Cumberland Hotel on the site of the old Ramsdale Hotel, Belmont-road, South Cliff, for the Holliday Hotels, Ltd., Norbreck Hotel. Messrs. Jones & Rickaby, architects, 102, Westborough :—

*F. W. Plaxton, Ltd., Scarborough.

Scarborough.—Bank and office premises in Westborough, for Messrs. Martins Bank, Ltd., 7, Water-street, Liverpool, 2. Mr. N. Pyman, of Messrs. Kitson, Parish, Ledgard & Pyman, architect, Lloyds Bank-chambers, Vicar-lane, Leeds :—

Demolition work, clearing site—
*A. W. Sinclair & Sons, Ltd., Scarborough.

Skipton.—For alterations and additions at the W.M. Club, for the Trustees and Messrs. J. Tetley & Sons, Ltd., The Brewery, Leeds. Messrs. Kitson, Parish, Ledgard & Pyman, architects, Lloyds Bank-chambers, Vicar-lane, Leeds :—

*T. T. Chapman.

Slough.—Extension of factory in St. Mary's-road, Langley, for the Lindley Thompson Transformer and Service, Co., Ltd. Messrs. E. & C. Bowyer, architects, High-street :—

*Ely, Barrett & Ely, Ltd., Langley.

Southall.—Additions to a factory on the north side of Scotts-road, for Messrs. Richardsons-Southall, Ltd. :—

*T. C. Jones & Co., Ltd., London, W.12.

Southall.—Office building at Bull's Bridge, Hayes-road, for the Grand Union Canal Carrying Co., 20, Bucklersbury, E.C.4 :—

*Harris (Contractors), Ltd., 302, Bath-road, Hounslow.

South Cambridgeshire.—Eight houses and three bungalows, for the R.D.C. Mr. T. Stone, architect, County Hall, Hobson-street, Cambridge :—

2 houses at Horesheath—	
H. J. Paintin, Ltd., Linton	£650
*F. Hale & Sons, Ely	635
2 houses, Little Eversden—	
James Brignell & Sons, Cambridge	640
*W. Wisbey & Sons, Ltd., Haslingfield	638
4 houses, Whittlesford—	
W. Wisbey & Sons, Ltd., Haslingfield	1,272
*James Brignell & Sons, Cambridge	1,269
3 bungalows, Bassingbourn—	
F. Hale & Sons, Ely	825
*W. Wisbey & Sons, Ltd., Haslingfield	600

Spilsby.—Public conveniences in Market-place, for the R.D.C. Mr. J. E. Bolt, Sanitary Inspector and Surveyor :—

Dale & Son, Cleethorpes	£1,028
C. Pickup, Fursby	980
John Porter, Skegness	890
*J. T. Turner & Sons, Wainfleet	860
J. W. Small, Hundleby	850

Sunderland.—12 houses at Castletown, Co. Durham, and 30 at North Hylton, Co. Durham :—

*L. W. Evans, 18, Norfolk-street, Sunderland, £3,696 and £9,156 respectively.

Sunderland.—Church hall in Cato-street. Mr. F. D. Caws, architect, 22, Fawcett-street :—

*G. Henderson, 176, Sunderland-road, South Shields.

Sunderland.—Rebuilding work at the Oak Tree Hotel, North Bridge-street, for Messrs. J. Deuchar, of Newcastle. Messrs. W. & T. R. Milburn, architects, 17, Fawcett-street :—

*Randle & Co., Back Dunelm-street, Sunderland.

Sutton Coldfield.—For erection of a block of retail shops on the Birmingham-road at Sutton. Messrs. James & Lister Lea & Sons, architects, 19, Cannon-street, Birmingham :—

*George Stephens & Sons, Boldmere-road, Wylde Green, Sutton.

¶Ternhill.—Underground cable scheme, for H.M. Air Ministry :—

*Overhead, Ltd., London, S.W.1.

Torquay.—Rebuilding of the Queen's Hotel, Victoria-parade, for Mr. B. Warner. Mr. W. N. Couldrey, F.R.I.B.A., architect, 19, Palace-parade, Paignton :—

*Lloyd & Son, Torquay.
(Estimated cost, £40,000.)

Trowbridge.—Sub-structure of the new County Offices, for the Wilts C.C. :—

*Spackman & Son, Swindon.

Wigan.—Cattle market to replace existing market in Millgate, for Messrs. John Trickett & Sons, auctioneers, King-street. Messrs. Johnson, Son & Lowe, architects, 25, King-street :—

*J. Walkden & Sons, Ltd., Wigan.

Willington Quay.—Factory, for Messrs. Tyne Plywood Works, Ltd. :—

*Purdie, Lumsden & Co., 25, Oxford-street, Newcastle-on-Tyne.
(Cost, £200,000.)

Williton.—Council chamber, clerk's, sanitary, surveyor's and rating officer's offices, for the R.D.C. :—

*W. E. Dewar, Minehead £1,975

Wimbledon.—External painting of houses on Lower Downs estate, for the Corporation :—

*Bleach & Dorey, Ltd.

Woodstock.—Works at Cock Pits Factory, Woodstock, for the T.C. :—

*Judd & Walker, Oxford-road, Woodstock £210

Worthing.—Rebuilding of business premises, 22-26, South-street, for Messrs. Kinck & Lack. Mr. R. Hodgson, L.R.I.B.A., architect, 22, Ship-street, Brighton :—

*F. Sandell & Sons, Ltd., Worthing.

York.—Tool sheds on housing estates, for the T.C. :—

39 double sheds and 20 single on the Tang Hall estate and Hope-street :—
‡R. Cattel £921 5 6

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‡Tarran Industries, Ltd. £3,837 0 0

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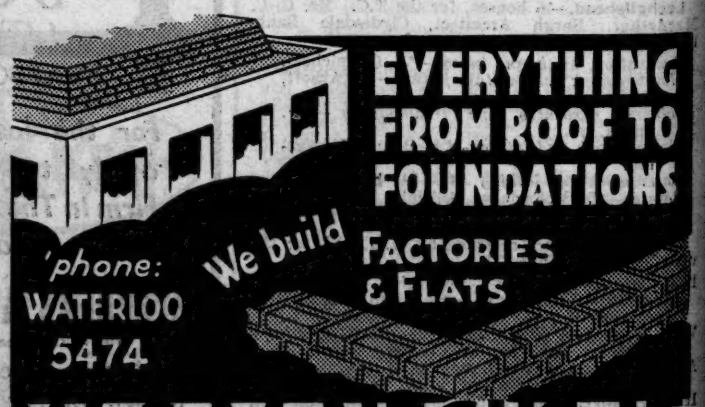

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